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PATENTS FOR INVENTIONS.

ABRIDGMENTS

OF

Specifications

RELATING TO

BOOKS, PORTFOLIOS, CARD-CASES, &c.

A.D. 1768–1866.

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PREFACE.

THE Indexes to Patents are now so numerous and costly as to render their purchase inconvenient to a large number of inventors and others, to whom they have become indispensable.

To obviate this difficulty, short abstracts or abridgments of the Specifications of Patents under each head of Invention have been prepared for publication separately, and so arranged as to form at once a Chronological, Alphabetical, Subject-matter, and Reference Index to the class to which they relate. As these publications do not supersede the necessity for consulting the Specifications, the prices at which the printed copies of the latter are sold have been added.

The number of Specifications from the earliest period to the end of the year 1866 amounts to 59,222. A large proportion of the Specifications enrolled under the old law, previous to 1852, embrace several distinct Inventions, and many of those filed under the new law of 1852 indicate various applications of the single Invention to which the Patent is limited. Considering, therefore, the large number of Inventions and applications of Inventions to be separately dealt with, it cannot be doubted that several properly belonging to the group which forms the subject of this volume may have been overlooked. In the progress of the whole work such omissions will, from time to time, become apparent, and be supplied in second or supplemental editions.

This volume contains Abridgments of Specifications to the end of the year 1866. From that date the Abridgments have not been published in classes, but will be found in chronological order in the quarterly volumes of the "Chronological and Descriptive Index" (*see* List of Works at the end of this book). It is intended, however, to publish these Abridgments in classes as soon as the Abridgments of all the Specifications from the earliest period to the end of 1866 have appeared in a classified form. Until that takes place, the reader (by the aid of the Subject-matter Index for each year) can continue his examination of the Abridgments relating to the subject of his search in the Chronological and Descriptive Index.

The present series comprises—in addition to Abridgments of Specifications, which relate to the binding of books, pamphlets, and loose sheets, and to the manufacture of portfolios, memorandum and pocket books, and card cases—all such as have been found to bear any relation to albums; artificial leather and other materials for book covers; book or reading stands, book slides, boxes for holding books and papers; book clasps, clips, and markers; copying presses (but only when connected to book covers); fastenings for pocket books and portfolios; indexes for account and other books; knives and contrivances for cutting open the edges of books and papers; preparing skins, leather, and paper for bookbinding; pocket protectors for pocket books; and such machines for folding paper as are applicable to the folding of printed sheets for books or pamphlets.

The Abridgments marked thus (* *) in the following pages were prepared for another series or class, and have been transferred therefrom to this volume.

B. WOODCROFT.

August, 1870.

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INTRODUCTION.

Book and bookbinding in the modern acceptation of the words were unknown to the ancients. In Coptic the equivalent for book is *djon* or *djoome* (original meaning *volume*); in Chinese, *shoo* (made up of two characters, one of which stands for *pencil*, the other for *speak*); in Sanscrit, *grantha* (*binding* or *fastening*); in Arabic, *kitáb* (from a root which signifies *write*); in Hebrew, *sepher* (*write*); in Greek βύβλος or βυβλίον, afterwards βίβλος or βιβλίον; *byblos* is the Coptic word for *the inner rind of the papyrus;* and in Latin *liber*, the name given to the *inner bark or rind of a tree.* Our word "book" is according to Mr. Wedgwood the Anglo-Saxon *boc*, from the Gothic *boka* (*letter, writing*); others connect the word with another meaning of *boc* (*beech*), "because the Teutonic race wrote on *beechen boards.*"

The commandments delivered to Moses were carved on stone, and the obelisks, tombs, and other monuments of stone brought from Egypt are covered with sculptures. A softer material would soon be required, and clay was early used for the purpose of writing on; of this the Babylonian tiles and the Assyrian tablets and cylinders (of which there are some thousands in the British Museum) are a proof. The clay after being stamped or written on was sun-dried or hardened by fire. The material on which Moses wrote his books of the law cannot be ascertained, but as the roll is the form still adopted in Jewish synagogues, an opinion may be hazarded that he wrote on skins.

The papyrus of the Egyptians however became so generally used that it may be termed the ancient paper, and it held its place against parchment and vellum until the 7th century of the Christian era, when it was superseded by them (Penny Cycl.). Livy in several places mentions *libri lintei* (*books of linen*), an ancient chronicle of the Roman people preserved in the temple of Juno Moneta, and Pliny states that before the introduction of papyrus private *records* were kept on *linen* or *wax*.

Pieces of papyrus were joined together side by side so as to form one broad sheet; the writing was executed on one side only in columns four or five fingers broad, with a blank space of about a finger's breadth between; when the writing was finished, the papyrus was rolled round a stick, and from this rolling a completed work was called a volume or roll. A painted boss or ball was fastened to each end of the stick, and usually projected above and below. The ends of the roll were carefully cut, polished with pumice stone, and colored black (Ovid Trist.) The back of the papyrus was stained with oil of cedrus, to preserve it from decay; the title was written on a small strip in a light red colour and attached to the outer end of the roll, or on a kind of ticket and suspended from the roll; a portrait of the author was prefixed to the first column; the roll was protected by an outer case stained with a purple or a yellow colour; and the whole was placed vertically in a cylindrical box (generally made of beech wood Pliny, XVI.) or horizontally on a shelf. It is not to be supposed that every roll was finished off in such style; the foregoing is the description of a complete first class roll or book, as may be verified by notices in Pliny, Ovid, Seneca, and Martial. Sometimes there was a stick at each end of the roll, so that the whole formed as it were a double roll.

The nature of the paste or cement for joining the pieces of papyrus is not known. Pliny tells us that it was the turbid water of the Nile which had a glutinous quality! The Jews must have been very expert in preparing the skins of their rolls and in joining them together, as we read in the 12th book of Josephus that, when they presented to Ptolemy Philadelphus (who died B.C. 247) a roll of their laws written in golden letters, the king stood wondering for a long time at the thinness of the skins and the invisibility of the joinings. They were far ahead of the Athenians, who as late as A.D. 407 erected a statue to Phillatius for teaching them "the art of gluing."

In the time of Augustus books, still in the form of rolls, were abundant and surprisingly low-priced. Horace informs us in his epistle "ad librum suum" that the Sosii were his publishers; he seems to complain of his works getting into the hands of the common people and becoming school books. In his "Ars "Poetica" he writes of a poet "rich in lands, rich in money laid "out at interest;" a proof that authorship was sometimes a lucrative *profession.* Martial tells that he is read throughout the whole globe, and in all nations under the rule of the Romans; that he is in everybody's pocket or hand. In one epigram he informs us that a copy of his 13th book (14 pages of modern print, 8vo.) may be bought for 4 nummi (about 8*d.*), and that if the bookseller Tryphon were to sell it for half that sum he would still get a profit. In another epigram he writes that a copy of his first book (29 pages of modern print, 8vo.), polished with pumice stone and encased in purple, may be bought at Atrectus's for five denarii (about 3*s.* 6½*d.*) "Slave labour," says Mr. Humphreys in his Art of Printing, "was the printing press of the Romans, "and a very effective one too." The transcribers were slaves, cheaply fed and hard worked, and one reader dictated to many transcribers. Both Horace and Martial hint that the publishers of their day produced at times larger editions than could be sold; the *remainders*, as modern publishers call them, were often doomed "to feed bookworms" or "to wrap up pastry and spices." As a proof of the number of copies of some works, Pliny (Ep. IV. 7.) writes that a certain Regulus, who wrote a biography of himself and his son, had 1,000 copies of it dispersed throughout Italy and the provinces. Nero too ensured the diffusion of a large edition of his verses by commanding that they should be given to schoolboys as examples.

When the change from the roll to the modern-shaped book took place is very uncertain. Some writers assign the change to Eumenes II., King of Pergamus, in whose reign (B.C. 197–159) parchment was invented, or more probably improved, as Herodotus mentions writing on skins as common in his time, and Ctesias and and Diodorus describe the ancient Persian records as written on leather. Other writers affirm that the Latin word *liber* means *roll*, and the word *codex* (literally the trunk or stem of a tree) a *square book.* The only authority for the former assertion is that both sides of the skin were so cleaned that either side could be written on; and a careful comparison of the passages in which the word codex occurs shows that it was applied to the wooden memorandum tablets which were jointed together and lined with a coat of wax. There is not a doubt that, when at a later age parchment or paper was substituted for wax and put together in the shape of a modern book, the name of codex was still retained. We have the authority of Winckelmann and others that all the literary works (and paintings of works) found at Herculaneum and Pompeii were rolls, and that most of the rolls were made of papyrus. The change most probably was very gradual, and the following quotation gives the opinion of Mr. Humphreys on the subject:—"It is supposed that the square form of book began to prevail in Rome in imitation of the tablets used for private memoranda, which were at first waxed plates of metal within a cover more or less richly decorated and protected by raised edges. These tablets were afterwards displaced by leaves of vellum, sometimes of different colours, to the number of five or six. Such tablets within richly carved ivory covers were during the period of the Eastern empire presented to consuls or other high functionaries on their nomination to office. Eventually it became customary for private persons to present each other with tablets often with complimentary poems ready written on the leaves of vellum, the covers naturally becoming objects for decorative embellishment. Small books of poems may have been prepared for sale in the same way, as the old rolled form did not afford such scope for decoration as the pair of panels which enclosed and protected the tablets. This form of book probably arose in the East shortly before the removal of the capital to Constantinople, as the name, by which tablets of that kind were distinguished, was the Greek term diptych. The period, which may be assigned for the general adoption of the square form for certain books, which were at first distinguished as libri quadrati, was probably not earlier than the 4th century. There is a copy of Virgil in the Vatican library, which may be considered one of the oldest existing monuments of a book in this form. It has been assigned by some to the reign of Septimius Severus, but more probably belongs to the age of Constantine. At any rate it is a relic of Roman handicraft, when the language of Virgil was still the language of Rome, as is shown by the costumes and all the accessories of the illustrations, which were evidently executed when Roman dress and manners prevailed in Italy." A learned German, named Schwartz, who wrote a treatise on books in 1705, says, (but without giving any date as to age) that there may be seen in the same library a copy of Livy, Tacitus, and others, *all in quarto quadrato*, i.e. in *square quarto*.

During the middle or dark ages, reckoned by Mr. Hallam from A.D. 486 to A.D. 1495, *i.e.*, from about 70 years after the final departure of the Romans from Britain to the 10th year of the *reign of Henry VII.*, books were very scarce, and consequently very high-priced. The monks were nearly the sole transcribers, and as they worked single-handed in the scriptorium attached to each principal monastery, but few copies could be made. The monks, and sometimes the bishops, were the illuminators and bookbinders as well as transcribers.

The introduction of paper must have greatly aided the multiplication of books. Paper is said to have been invented by the Chinese about A.D. 95 (Penny Cycl.). The art of making paper from cotton was learned from the Chinese by the Arabs in the 7th century, and there was a manufactory of such paper established at Samarkand about A.D. 706. The Arabs seem to have carried the art into Spain, and to have there made paper from linen and hemp, as well as from cotton (Journal of Education). Of course the invention of printing (about A.D. 1438) did away with the occupation of the transcriber, and materially increased the work of the binder.

In Dibdin's Bibliographical Decameron we read, "the printing
" of the folio bible in the reign of Henry VIII. (1538, 1539),
" must have given importance to the art of bookbinding. The
" first edition consisted of 2,500 copies, one of which was set up
" in every church in England, and secured to a desk by a chain.
" Within 3 years there were seven editions of this work."

Authors, too numerous to mention, describe books bound in gold, silver, velvet, silk, vellum, and leather, and having the covers ornamented with precious stones and metals, crucifixes, madonnas, bosses, &c., &c. The most ancient bound books in the library of the British Museum are (1) the celebrated MS. of St. Cuthbert's gospels, written between 698–720; it is bound in velvet intermixed with silver and having a broad silver border; the centre and border are inlaid with gems. (2.) A copy of the Latin gospels, written in the beginning of the 9th century; the binding is coeval or nearly so; it consists of thick oaken covers plated in silver and set with gems; on one side is embossed the figure of the Saviour, with the symbols of the Evangelists in the corners, and on the other side is the Agnus Dei. (3.) Latin gospels of the 10th century, in ancient metallic binding ornamented with crystals. (4.) A Latin psalter, with the canticles, litany, and office for the dead, written and illuminated about the year 1140; the covers are of carved ivory set with turquoises; on one side are represented some events in the life of David, on the other illustrations of the seven works of mercy. If, however, we compare these and other antique bindings with modern specimens of the art to be found in public libraries and private collections, we shall have good reason to be proud of our modern craftsmen. Modern work is more elegant, less ponderous and clumsy, and at the same time apparently equally durable.

The description of a binding recorded in Dibdin is worth extracting; the book is said to be "in the library of J. W. King "Eyton, Esq.," and is called "a large paper copy of the late "Mr. Blakeway's Sheriffs of Shropshire." "It is an imperial "folio, with the armorial bearings beautifully colored." "The "binding is of blood-colored morocco, extending an inch and "half all round the inside of the cover, on which is placed a "bold but open border tooled in gold, forming a fine relief to "the rest of the inside, which is in purple, elegantly worked all "over in hexagons running into each other in the Venetian style. "In each compartment is placed the lion rampant and fleur-de-lis "alternately. The fly-leaves are of vellum, ornamented with two "narrow gold lines, and the edges are tooled. The back consists "of hexagons inlaid with purple, containing the lions and fleur-"de-lis aforesaid, but somewhat smaller than those in the interior. "The design on the outside is a triumphal arch, occupying the "entire side, highly enriched, with its cornices, mouldings, &c., "executed in suitable small ornamental work; from its columns "(which are wreathed with laurel), and other parts of the struc-"ture are suspended the shields of the sheriffs, 70 in number, "the quarterings of which with their frets, bends, &c., are "curiously inlaid in different colours of morocco, and, with the "ornamental parts of the bearings, have been emblazoned with "heraldic accuracy on both sides of the volume. When we state "that more than 57,000 impressions of tools have been required "to produce this wonderful exemplar of ingenuity and skill, "some idea may be formed of the time and labour necessary for "its execution."

A short notice of the celebrated library at Alexandria cannot be out of place in an introduction to books, as it was probably the largest collection ever brought together before the invention of printing. It is said to have been founded by Ptolemy Soter, about B.C. 283, and increased by his successors, until it contained according to Aulus Gellius, 700,000 volumes, according to Josephus, 500,000, and according to Seneca, 400,000. The difference may perhaps be reconciled by supposing that the latter gave the number in one part only of the library, which consisted of two parts situate in different quarters of the city. During the siege of Alexandria by Julius Cæsar, a great part of this library was burnt by a fire, which spread from the shipping to the city; it was soon re-established and augmented by the addition of the library founded by Eumenes, King of Pergamus (the accredited inventor of parchment), which collection, amounting to 200,000 volumes, Marc Antony presented to Cleopatra. Alexandria flourished as one of the chief seats of literature until it was taken by the Arabs, A.D. 640. "The library was then burnt, according " to the story generally believed, in consequence of the fanatic " decision of the Caliph Omar,—'If these writing of the Greeks " 'agree with the Book of God, they are useless and need not be " 'preserved; if they disagree, they are pernicious, and ought to " 'be destroyed.' Accordingly, it is said, they were employed to " heat the 4,000 baths of the city; and such was their number, " that six months were barely sufficient for the consumption of " this precious fuel" (Penny Cycl.). This account may or may not be true, but at all events the library was dispersed, if not destroyed; it ceased to exist as a public institution.

The library of the British Museum contains upwards of 800,000 volumes, exclusive of manuscripts.

The sums paid for certain books would appear to the sober-minded incredible, if they were not well authenticated.

In 1806, a Bible, presented by Alcuin to Charlemagne in about A.D. 780, was sold for 1,500*l.*

In 1812, at a sale of the Duke of Roxburgh's library, a copy of Boccacio's Decamerone, 1 vol., folio, was knocked down to the Marquis of Blanford for 2,260*l.* It is said that the Roxburgh club was founded in commemoration thereof. The same copy was sold by public auction in 1819 for 875 guineas.

In 1836, a copy of William of Malmesbury's De gestis regum Anglorum fetched at a sale 63*l.*, one of Thom's Chronica, 85*l.*, and one of Henry of Huntingdon's De gestis Anglorum, 78*l.* 15*s.* 6*d.* As a proof of the uncertainty of sales by auction, the first was sold in 1807 for 1*l.* 7*s.*, the second for 12*s.*, and the third for 2*l.* 1*s.*

In 1857, a translation of some of Cicero's works, printed by Caxton and bound in old Russia, was sold for 275*l.*

A copy of the "Recuyell of the Historyes of Troye," printed by Caxton, 1471, was sold for 1,060l.; this is taken from the *Encyclopædia* Edinensis, but the date is not given.

Scattered about in "Notes and Queries," will be found notices of books still chained in churches, parish vestries, and school-houses.

Modern ingenuity has in bookbinding, as well as other arts, applied itself to superseding hand-labour by machinery; consequently the present series contains abridgments relating to contrivances for folding paper, rounding or backing, stitching, ploughing edges, cutting pasteboard, holding and pressing, case-making, and mottling edges. In the report of the jury respecting the Exhibition of 1851, we read,—"Bookbinding may be said to " have become a manufacturing business. Books handsomely " bound, gilt, lettered, embossed, and otherwise ornamented, no " longer depend upon individual skill, but are produced with " extraordinary rapidity by the aid of machinery. Mr. Burn, of " Hatton Garden, first introduced rolling machines to supersede " hammering; the iron printing presses of Hopkinson and others " were altered to form arming presses, by which block-gilding, " blind tooling, and embossing can be effected with accuracy and " rapidity. Leather covers, embossed in elaborate and beautiful " patterns by means of powerful fly-presses, were introduced by " M. Thouvenin, in Paris, about 25 years ago, and almost simul- " taneously in this country by Messrs. Remnant & Co. and Mr. " De La Rue." " Embossed calico was also introduced about " the same period by Mr. De La Rue. Hydraulic presses instead " of the old wooden screw presses; Wilson's cutting machines, " which superseded the old plough; the cutting tables with " shears invented by Mr. Warren De La Rue, and now applied to " squaring and cutting millboards for book covers; all these " means and contrivances indispensable to large establishments " prove that machinery is one of the elements necessary to " enable a binder on a large scale to carry on that business " successfully."

The following notices of rapidity of work are worth recording; the first is taken from the supplement to the Penny Cyclopædia, article, Bookbinding, 1845. " Five or six years ago, Dr. Ure " said, 'that should Messrs. Westley (one of the largest establish- " ' ments in this line [clothbinding]) receive five thousand volumes " ' on any given occasion, they can have them all ready for " ' publication within the incredibly short period of two days;' " and this has been more than borne out by what has been since " *done.*"

The second is taken from the English Encyclopædia :—" At 10

" o'clock in the evening of the 30th of April, the first complete " printed copy of the official catalogue left the printer's hands; " in the following forenoon 10,000 such copies (in paper wrappers " for stitched but unbound books) were ready at the Exhibition " in Hyde Park, including two superbly bound for Her Majesty " and Prince Albert."

In the report of the jury on the bookbinding exhibited in 1862, we are told that "no one member of the jury had acted upon the " same section at the Exhibition of 1851," and that consequently no comparative test could be instituted between the work of 1851 and that of 1862. The jury announce that "there is a marked " advance" in each of the three sections into which they divided their subject; " that it was stated in 1851, that in houses like " Remnants, Westleys, and Leightons, in London, 1,000 volumes " could be put up in cloth covers, lettered, and gilt, in *six* hours; " and it may now fairly be said that the large foreign houses, " such as Gruel-Engelman, and Mame and Co., have acquired an " equal degree of efficiency, the English houses having at the " same time made a proportionate advance."

BOOKS, PORTFOLIOS, CARD-CASES, &c.

A.D. 1768, April 16.—N° 900. (* *)

POWERS, William.—A method of "splitting and dividing "sheep's pelts, lamb pelts, and other skins, so as to render the "grain or upper part thereof more useful for binding of books "and other purposes of trade, and at the same time preserving "the under part of the said pelts and skins in full goodness to "be wrought into leather." The skin, which should be a large sheep or lamb skin of a hollow texture, after liming is soaked in warm water. A beam is provided made of a round piece of soft wood with a flat upper surface seven or eight inches wide. The skin is fastened to the beam so that one half is on the flat surface of the beam and is rubbed with bran. "A sharp knife must "then be provided, something like a frizing knife, but made "straight, and with this the operator must begin at the upper "end of his beam" and cut through the grain, "pressing hard "upon the surface with a steady hand and short transverse "strokes." The other half of the skin is split on the flat surface in a similar manner.

[Printed, 4*d*. No Drawings. See Rolls Chapel Reports, 6th Report, p. 135.]

A.D. 1774, February 14.—N° 1065. (* *)

JACOB, Joseph, the younger.—"A method of ornamenting "carriages, sedan chairs, buildings, furniture, musical instruments, "books, and toys."

The Specification describes the invention as consisting "in "painting, gilding, japanning, lacquering, high varnishing, "engine cutting, stamping, printing, engraving, inlaying and "piercing the metals commonly called tin foil, lead, and pewter, "beat or roll'd out into thin sheets and fixed on to the parts "of the aforesaid subjects designed to be ornamented."

Plans in the margin of the Specification show the invention as applied to a "coach boot or budget."

[Printed, 4*d*. Woodcuts.]

A.D. 1785, January 28.—N° 1462.

EDWARDS, James.—" Embellishing books bound in vellum " by making drawings on the vellum which are not liable to be " defaced but by destroying the vellum itself." To prepare the skin, " take off with a sharp knife all the loose spongy part of the " flesh, then soak the part to be ornamented with water in which " a small quantity of pearlash has been dissolved, till it is " thoroughly wet, afterwards press it very hard, and it becomes " transparent." It may then be drawn upon, " beginning with " the most light and delicate shades, afterwards with the stronger " and ending with the coarsest." The drawing, when finished, " may be painted with strong opake colours; but in this case the " shades must be painted first and the lights afterwards." Copper plates also may be impressed " so as to have a similar effect." When the ornamentation is completed, the skin " must be lined " with fine wove paper put on with paste made of the best flour, " and is then ready for covering as other vellum books."

[Printed, 4*d*. No Drawings.]

A.D. 1786, January 31.—N° 1526.

BULL, John.—" A machine for the purpose of pareing, pumming, " friezing, and grounding of leather used in the manufacturing of " gloves, breeches, and shoes, and for binding of books, and for " cutting out of shoes, slippers, gloves, mitts and muffs, and for " embellishing the same with ornaments in gold, silver, and " colours." This machine is composed of a cutting press at one end, a rolling press at the other, and a paring press between them; they are all supported by " uprights morticed through the " main beam."

The cutting press, being employed for shaping the articles mentioned in the title, need not be described in the present series.

The paring press consists principally of " cylinders, whereon " are fastened the pumice stones, pulverized glass, or the paring " knives," and of rollers (between the cylinders) " between which " the skins are suspended and strained." The cylinders " are " moved in a perpendicular direction " by pinions working in the teeth of a horizontal wheel which is " turned on one center in the " main beam " and " another in the floor below " by horse or water power. The rollers are adjusted by screws.

The main feature of the rolling press is a pair of rollers; a copper plate is engraved with a device which " is filled by rubbing " in the white color or gilding size " with a " stuffed flannel " rubber," and then " cleaning the plate without wiping the size, " &c., out of the engraving;" the " flannel, plate, and leather " are passed between the rollers, and the impression is thereby transferred to the leather. This press is worked by a horizontal wheel by means of pinions and a " centrate wheel " that turns the upper roller.

The structure of the horizontal wheel, the pressure levers, the levers for throwing the pinions out of gear, and the method of working the machine, are described.

[Printed, 1*s*. Drawing. See Rolls Chapel Reports, 6th Report, p. 173.]

A.D. 1790, January 20.—N° 1723.

HOOPER, Samuel. — " Manufacturing from leather, leather " cuttings, shavings, or parings of every kind of leather what- " soever, and whit leather, or leather for covering the fronts, " backs, sides, and tops of coaches, chariotts, post-chaises, sedan " chairs, and trunks, and for making band, hatt, and other " boxes, waiters, tea-trays, inkstands, ink potts, snuff and tobacco- " boxes, and other things, mouldings, cornices, ceiling and other " ornaments for rooms, and for binding of books." The process of manufacture varies according to the purpose for which the leather is required. For book-covers cuttings, shavings, or parings are put into an engine, washed clean with water, and worked up with sufficient water to form a fine pulp. The pulp is then transferred to a chest or tub, " worked on brass or iron wire moulds," and " made to any degree of thickness;" it is now " put into the " moulds " and " with a hand screw press, suspended in a frame over " a table, pressed sufficient to separate the water from the pulp." Each piece as it is made is laid between blanketing or felt, placed in an upright press, and pressed until it is as free from water as possible; it is then taken out, laid on the ground to dry, and again pressed to give it a smooth and even surface. Should further pressure be required, each piece is put between metal plates, pressed again or passed between iron or brass rollers, " which finishes the operation."

[Printed, 4*d*. No Drawings. See Repertory of Arts, vol. 2, p. 371; Rolls Chapel Reports, 6th Report, p. 182.]

A.D. 1799, November 4.—N° 2355.

WILLIAMS, John, and WILLIAMS, Joseph.—"New-invented "improved method of binding all sorts of books." A back of semi-circular, semi-oval, "or any other semi or curved form, "turned a little at the edges," and made of any metal or other material "capable of retaining a firm situation," is put on the book before it is bound, so as "just to cover over (but not to "press) the edges of the paper." This back will, when the book is opened, "prevent it spreading on either side, and cause it to "rise in any part to nearly a level surface." If necessary, "the "vacuity from the firm back to the angle of the paper may be "hid by a cap at each end, made of the aforesaid or any other "material, with a spring catch to fasten within the back, for "which purpose the back must be sufficiently large to admit the "cap, so as to prevent the paper being fretted against, and tin or "some other matter placed over the catches." The method of binding books is as follows:—"The paper forwarded in the usual "manner, sewed on vellum strips, glewed, cut, clothed, and "boarded (or half-boarded), and the firm back put on by being "fastened at the sides through holes by vellum, or secured by "inclosing it in vellum, forrell wrappers, or other matters pasted "down upon or drawn through the boards; and the other half "the board pasted over, the cover put on, and book finished."

[Printed, 4*d*. No Drawings.]

A.D. 1800, December 30.—N° 2412.

PALMER, Ebenezer.—"Improved mode in binding books, "especially merchants' account books." The improvement consists in strongly fastening to "each section of the book" a "metallic hinge or chain," which "operates with the back of "the book when bound in such an improved manner that thereby "occasions the said sections to open in such a manner as to bring "them on a parallel with each other, and in consequence thereof "admit of the ruled lines being written into, even close to the "back, without any inconvenience." The hinge or chain is composed of "various small bars of metal or composition of metals, "about the thickness of a shilling or more, according to the size "and thickness of the book to be made," and the length of each bar varies from half an inch to several inches, "in proportion to "the strength required in the back of the book." Every bar has at each end a pivot for the reception of two metallic links, " made " rather in an oval form," and " being nearly the length that two " of the above-described bars are wide." The links are riveted on the pivots, and the whole forms a hinge " on the principle of " a link chain or hinge."

[Printed, 4*d*. No Drawings. See Repertory of Arts, vol. 14, p. 305; Mechanics' Magazine, vol. 30, p. 109; Rolls Chapel Reports, 6th Report, p. 198.]

A.D. 1806, March 8.—N° 2915.

WILLCOX, Richard.—" Machinery for glazing and graining " leather." A number of small rollers, " forming a circle," are disposed round a drum " in such a manner that only one, two, or " three of the said rollers shall be on the skin at one time," and that at every rotation of the drum they " commence their opera- " tions in or on the middle part of the skin, and work outwards " from the center of the skin to its edges." Other rollers, " turned true, but made of the end grain of the wood," turn " outwards from the centre of the skin towards each edge side; thus, if six are employed, three turn outwards to the right and three to the left; they are " placed in a frame or other convenient " apparatus," and may be turned by any " well-known ways for " driving machinery." They are " placed close as is convenient " to the small rollers that glaze and grain," for the purpose of stretching and keeping the skin steady and smooth " previous to " its passing under " the glazing and graining rollers. The skin is afterwards laid on an engraved or etched plate, and both are passed " between a pair of rollers similar to those used for copper- " plate printing." If the skin is intended for bookbinding, a finish is given to it by coating it with elastic varnish.

The drum works on bearings " in a simple convenient framing," by means of a wheel or rigger; it is " to be divided longitudinally " into fifty equal parts or divisions, and likewise divided into " fifty parts in circumference." The glazing rollers are fixed on the drum by means of springs furnished with adjusting screws; they are " grooved or fluted," and they are turned, and the skin is moved forward by any of the ordinary methods " of driving " rollers for machinery."

The size preferred for the drum, rollers, and springs, the method of fixing, and the speed, are mentioned in the Specification.

[Printed, 4*d*. No Drawings. See Repertory of Arts, vol. 9 (second series), p. 377.]

A.D. 1806, December 22.—N° 2998.

ECKHARDT, Anthony George.—" Improvements in the mode " of covering or inclosing books, whereby their contents will be " secured from the observation of any person but the owner, and " will also be preserved from injury." This invention " consists " in extending the idea and application of a principle invented " by Messieurs John and Joseph Williams," for which letters patent were granted to them dated November 4, 1799, No. 2355. The " firm back " described therein is applied externally, and to it are hinged flaps " of the same or any other strong material." To the flaps are hinged " ledges which completely enclose the " book on all sides, resembling in appearance a book;" and " within side this firm box are placed stays, or pivots, or indents, " to hold down the cover of the book, which, being confined upon " the same principle as in the former patent, will cause the book " so inclosed, when opened, to produce a flat or level surface."

Another part of this invention " consists in converting the ledges " at the bottom or on either side to supporters for the hand, " when requisite, to write near the bottom or edges of the book;" for this purpose, on the part where the hand-rest is required, the ledges have " a joint which shall extend across one or both sides " of the book," and " these rests possess an ability to elevate " or depress their position at pleasure, with a power of being " rendered stationary by means of a stop or stops which are " affixed to the flaps." The whole is to be secured by a lock or other fastening.

This invention is " applicable to any number of books in " succession, as one may be removed and another placed instead " in an instant."

[Printed, 4*d*. No Drawings. See Repertory of Arts, vol. 10 (*second series*), p. 253; Rolls Chapel Reports, 7th Report, p. 195.]

A.D. 1808, July 25.—N° 3153. (* *)

CROSBY, Benjamin.—" A machine or stand for books, which " may be made either circular, square, or any other convenient " shape, and which may be turned or moved at pleasure, with " cases to receive books, as well as various other articles and " things." This book stand is composed of a central shaft or column and fixed shelves at suitable distances above each other, *containing each* a roller or cylinder and screwed to the shaft; a book shelf is fixed to each cylinder. Each book shelf is divided into compartments by cross pieces; the interstices are "to be "filled up with blank or sham books, with labels of popular "books, or in any other ornamental way."

[Printed, 8*d*. Drawings. See Rolls Chapel Reports, 7th Report, p. 107.]

A.D. 1810, June 19.—N° 3352. (* *)

BELL, WILLIAM.—"An improved machine for the purpose of "cutting pasteboard or cards out of pasteboard or paper, and for "cutting various other articles," such as parchment, leather, hay, straw, and rags. The Patentee claims the use "of a number of "cutters made circularly." Two horizontal spindles are placed one over the other in a frame, and driven by spur wheels working into each other. On the spindles are placed circular cutters, between which the article to be cut is caused to pass. The cutters may be suitably set at the required distances from each other.

This machine may be used, amongst other purposes, "for "cutting strong sheets of pasteboard for binding or covering "books."

[Printed, 6d. Drawing. See Rolls Chapel Reports, 7th Report, p. 210.]

A.D. 1817, December 19.—N° 4190. •

PAPPS, THOMAS.—"Improvements in certain books of account, "commonly known under the names or denomination of cash "book, bought and sale day books or journal, and ledger." The drawing annexed to the specification exhibits a specimen of the arrangement of a page of each book, each page being "ruled with "a double head-line."

The cash book "contains eight columns" on the debit side and as many on the credit side; the first is headed "date," the second "folio of ledger," the third is "a large open space "or column for the name and residence of the debtor or creditor, "or such other particulars as may be considered necessary;" the remaining five are "columns of money lines," the first on the debit side being headed "Cr. sale account sundries," and on the credit side, "Cr. purchase account sundries, the second on each side "Cash," the third on the debit side "Dr. profit and "loss," and on the credit side, "Cr. profit and loss," the fourth on the debit side, "Cr. bankers," and on the credit side, "Dr.

" Bankers," the fifth on the debit side " Cr. shop cash," and on the credit side " Dr. trade expense."

The bought day-book or journal contains eight columns on a page; the first three are headed as above, then follow four columns of money lines; the first is not headed, being intended for " the separate amount of the cost price of each parcel " of goods contained in the bill of parcels or invoice that is " purchased and the charges thereon;" the second is headed " Dr. purchase account;" the third " Dr. stock account," and the fourth " Dr. trade expense;" the last column is headed " No. of invoice."

The sale day-book or journal contains nine columns in a page; the first three as before, then two money columns, the one (not headed) for the separate amount of the sale price of each parcel of goods in the invoice sold and the charges thereon, and the other headed " Dr. sale account;" the sixth is headed " private mark;" the seventh (not headed) " is for the " separate amounts of the cost price of each parcel of goods in the " invoice or bill of parcels of the articles sold, exclusive of the " charges thereon for delivery;" the eighth is headed " Cr. stock " account," and the ninth, " Cr. trade expense."

The sale day-book or journal " for goods which are sold upon commission" contains nine columns on a page; the first and third are as before, the second being headed " folio of ledger " debits;" the fourth and fifth (ruled for money) are not headed; the one " is for the separate sums or amounts of each parcel of " goods contained in any bill of parcels or invoice of goods sold," the other " for the total amount of every such bill of parcels or " invoice with the charges thereon for delivery," and " for insertion of the amount of commission, &c. charged to the persons " for whom the goods are sold;" the sixth is headed " Dr. sale " account" the seventh (not ruled) " Cr. sundries; the eighth (not ruled) " folio of ledger credits," and the ninth (ruled for money) " Cr. trade expense."

The ledger contains in a page five columns on the debit side, five on the credit side, and " six other columns;" the first and second on each side are headed " date," the third is for the words " goods or cash" " and such other particulars as may be con- " sidered necessary," and therefore not headed, the fourth is headed " folio of cash book and journals," and the fifth (not headed) is a money column. Of the other six the first, third, and fifth are headed "Dr. or Cr.," and the second, fourth, and sixth (money columns) are headed "balance." A line is ruled "under a space" to contain two entries. In the specification full instructions are given respecting the entries to be made in the columns.

[Printed, 1*s*. Drawing. See Rolls Chapel Reports, 7th Report, p. 118.]

A.D. 1825, November 10.—N° 5289.

COOK, BENJAMIN.—"Improvements in binding of books and portfolios of various descriptions." The object of this invention is to render books "secure from fire," and the patentee effects his object by employing "iron, tin, or other metals or mixture of "metals" instead of pasteboard for the covers and backs of books. "I joint," says the patentee, "or otherwise connect the "sides or outside covers of the book to the back, and then in "some instances I use clasps or locks to keep the book closed. "But I do not claim any exclusive privilege for clasps or locks."

[Printed, 4*d*. No Drawings. See London Journal (*Newton's*), vol. 14, p. 142.]

A.D. 1836, December 7.—N° 7247.

HANCOCK, WILLIAM.—"Improvements in bookbinding." This invention consists in a new method of applying caoutchouc and solutions thereof to the backs of books, so that "sawing and "sewing the same is rendered unnecessary." The sheets, being folded and pressed, are put into a cutting press between two cutting boards, just so much of the backs projecting, that when the ploughing knife is applied, "the leaves of each sheet are "separated" from one another. The surface is slightly roughened and is then coated with a solution of caoutchouc. When the coating is dry, a second is added, and when this is dry, a strip of caoutchouc cloth is applied "in a warm sticky state," and secured by rubbing or pressing. The leaves will be found so firmly cemented together that they may be removed from the press, and the boarding and finishing may be proceeded with.

Instead of ploughing away the whole of the backs, "broad "grooves may be cut therein at equal distances;" the plain as well as the grooved parts are twice coated with a solution of caoutchouc, and cross bands of caoutchouc cloth are inserted into the grooves; the ends of the bands are attached to the boards. Sheet caoutchouc may be used instead of cloth.

Folio sheets and generally "all leaves when in a simple duplicate "state with a back of one fold" may be securely cemented without ploughing or cutting. Books "composed of leaves originally "single," require ploughing and roughening. Plates or maps have attached to the back edge of each by means of a solution of caoutchouc a strip of cotton or other fabric which "overlaps the "leaf to the extent of about a quarter of an inch on each side."

[Printed, 4*d.* No Drawings. See Repertory of Arts, vol. 9 (*new series*), p. 162; London Journal (*Newton's*), vol. 11 (*conjoined series*), p. 10; Mechanics' Magazine, vol. 30, pp. 110, 215.]

A.D. 1837, December 19.—N° 7515.

NICKELS, CHRISTOPHER, and COLLINS, HENRY GEORGE.— "Improvements in bookbinding, parts of which improvements "are applicable to the cutting of paper for other purposes." This invention is divided into four parts, the first three of which belong to the present series. The first part relates to a machine for "forming the backs of books instead of beating them round." The machine consists of a base, two ends, one of which is moveable, and a mould whose extremities lie in hollows cut one in each end. The leaves are placed "with the back downwards" in the mould, and on each end "there is a contrivance similar to a "parallel rule," which "shuts against any thickness of paper to "keep it steady while being rounded." The ends are made fast to each other, "when set to the length of the book," by a connecting bar, thumb screw, and nut. Instead of the mould extending the whole length of the machine, the ends only of the leaves may be supported in suitably shaped hollow pieces.

The second part describes the making and applying "an elastic "or flexible cement" for the backs of books. A pound of isinglass or best glue is dissolved in three quarts of hot water or any other liquid, and thereto is added by degrees about a quarter of an ounce of linseed oil incorporated with a quarter of a pound of dry coarse sugar, stirring the whole until well mixed. "The "whole is then to be boiled together until it is of that consistence "that it may be laid on when hot or in a fluid state with a "brush." A coat of this cement is applied to the back and well rubbed in, and a piece of calico or other fabric, coated with the cement, is pressed over it. The cement may be modified; gelatine, "incorporated with albumen or the mucilage of vegetables," *may be* "*a constituent* part."

The third part consists of "a machine for cutting books or "paper in quires." A box slides in a frame on a tram or railway; its bottom is raised or lowered "either by one screw in the "middle or four screws and four revolving toothed nuts gearing "into a wheel;" its hinder side is provided with "two screws "with a loose end of the size of the least depth of the box," and a cord or chain connects its front side to a revolving shaft, which "will bring the box gradually under the cutter." The cutter is "fixed to a parallel slide passing transversely from side to side "over the top edge of the box," and it may be worked by a crank or by other means. The whole may be set in motion by a strap from a steam engine or other power or by hand.

[Printed, 6*d.* Drawing. See Repertory of Arts, vol. 10 (*new series*), p. 282; Mechanics' Magazine, vol. 30, p. 215.]

A.D. 1841, September 4.—N° 9059.

WHITAKER, Richard.—"Improvements in cutting the edges "of books and paper for other purposes, and for impressing "ornaments, letters, and figures on the binding of books and on "other surfaces." The patentee claims seven novelties in the machinery wherewith he effects his improvements.

1. A mode "of compressing books or paper to be impressed or "cut" by means of pressers:—"In the upper surface of the "machine there is an opening" in which the book is held by cheeks and wedges, and in an upper plate is a dovetail groove in which the adjustable bar of a gauge slides, so that the book can "be properly gauged in its position between the cheeks." One cheek is stationary, the other is moveable to and fro by means of pressers "worked by racks and cog wheels driven by a screw."

2. A mode of raising the platform which supports the book or paper:—The platform is affixed to bars "which turn down at "right angles, having teeth formed thereon;" the bars are combined by means of other bars, "at each end of which there is a "friction roller;" and two toothed wheels take into the teeth on the bars and raise or lower the platform.

3. The construction of a chase for holding type or ornamenting surfaces:—The chase is a quadrangular frame divided into three compartments which are moveable by means of screws; these turn on axes in bearings formed in the frame, so that the partitions "can be set to any desired position." Screws at the end of the chase securely fix the impressing surfaces, and

other screws passing through the sides of the chase "hold them " correctly in the chase." "At the outer edges of the type" are applied "bent surfaces or plates," which "act as guides in " lowering the form of type on to the back of a book."

4. " Combining the chase with a heater box :—The box is a frame with grooves into which the projecting edges of the chase enter, and with a sliding door to enclose the heater when it has been placed above the chase.

5. "The mode of working a chase :"—A wheel "having several " grooves so as to cause the cord of the pressing weight to be " nearer to or further from the centre" turns in bearings on the framing of the machine. Another cord, fastened to one of the grooves, passes under a pulley and is made fast to the lower end of a ratchet-toothed bar, which when raised is supported by a spring catch. The upper end of the bar is forked and carries the axis of a lever which " carries the impressing apparatus."

6. "The mode of preparing the backs of books in order to " ensure uniformity of impressing :"—The back of the book is submitted "to the process of a roller press, which is made to fix " on the framing of the machine;" the pressing roller is capable of sliding on its axis in order to adjust its position "to the position " of the work" by screws which do not bind the roller but simply control its position. "The roller has holes in it in order " to receive heaters," and a plate with corresponding holes and turning on the axis by means of a handle encloses the heaters in the roller.

7. Improvements in the plough :—When the machine is to be used "for cutting books or paper," the lever with the chase and bar must be removed; the gauge too must be taken out of its groove. A dovetail slide is added to the plough; it slides in the gauge groove "when the plough is moved to and fro by the " workmen in the act of cutting;" and the blade has " a diagonal " stay" which stiffens it.

The several parts of the machine are fully explained in the Specification.

[Printed, 2*s.* 8*d.* Drawings. See Mechanics' Magazine, vol. 36, p. 253.]

A.D. 1842, April 15.—N° 9322.

RICHARDS, THOMAS.—" Improvements in the art of book-" binding, and also in the machinery or apparatus to be employed " *therein.*" This invention may be called a bookbinder's sewing machine; it is mainly "composed of a table capable of sliding to "and fro in order to feed or supply each sheet of paper separ- "ately into the machine; also needle bars or holders to present "needles with the requisite threads for stitching such sheets as "they are successively supplied; a series of holding fingers or "pincers suitably provided with motions to enable them to "advance and clasp the needles, draw them through the sheets "of paper, and return them into their respective holders after "threading or stitching the sheet; and lastly arms or levers for "delivering each sheet regularly upon the top of the preceding "sheets, in order to form a collection or book of such sheets "ready for boarding and finishing." Two end frames, bolted to standards, support in bearings three shafts, and upon an end of one is a band pulley "driven by a band or strap proceeding from "a treadle shaft;" but other means may be employed for giving motion to the machine. The various pieces required for connecting the above-named principal parts and for setting them in motion are detailed in the Specification. Each separate sheet "must be previously prepared by being folded singly (and not a "number together, one within another, as in common book- "binding), and having a thread gummed and placed longi- "tudinally close in the fold;" and the ends of the thread "are "to be brought through the back of the fold within a short "distance of the top and bottom," and to be left long enough "to form a substitute for the end papers commonly employed to "secure the boards to the sheet." A sheet so prepared is laid upon the table "with the folded edge just beyond the edge of "the table ready to be submitted to the cross stitching to be "performed by the machine." There are two needle bars or holders with a separate series of needles for each, "and so con- "trived that the needle holders shall intersect each other;" by this arrangement "only each alternate sheet" is stitched in the same place, and every other sheet is stitched "at the intervening "spaces;" consequently, "the one series of vertical or machine "threads pass inside the longitudinal thread in the folded sheet, "and the other series of threads pass outside or at the back of "the same sheet; and vice versa alternately throughout," thus forming "a complete cloth or woven back, with each sheet "separately secured."

[Printed, 1*s*. Drawing. See London Journal (*Newton's*), vol. 23 (con- *joined series*), p. 157; Record of Patent Inventions, vol. 1, p. 198.]

A.D. 1842, June 21.—N° 9399.

GYE, Frederick, junior.—" Improvements in binding pamphlets, papers, and other documents." The binding is effected by means of an instrument, which " consists of a piece of wire " pointed at each end, so as readily to penetrate the papers, and " when passed through, the ends are folded down so as to bind " or hold the papers together." Each instrument has formed on it one, two, or more eyes " to allow of the papers being filed or " hung up;" but " the eyes may be dispensed with." When the papers are long, two or more instruments should be used; and several pamphlets may be bound together by passing the instrument "laterally" through and then turning down the points. " Drafts of legal documents," may be secured in like manner at the corners.

[Printed, 10*d.* Drawing. See London Journal (*Newton's*), vol. 22 (*conjoined series*), p. 345; Record of Patent Inventions, vol. 1, p. 408.]

A.D. 1843, August 22.—N° 9872.

FREEMAN, Mark.—" Improvements in card cases." The case most suited for this invention is one " in which the lid moves on " a hinge." The block on which the case is made is of such shape that the back of the inside of the case is wider than the front, and that the bottom is formed with a recess. In the back is placed a spring " having a roughened surface which presses " against the edges of the cards," and in the front is glued " a " piece of coarse cloth, which by yielding to any inequality of size " of the cards causes them all to press against the spring." Within the case is the following contrivance also (which is the essential of the invention) for raising one card at a time:—a plate of thin metal has in it two slits, and the part between the slits " is bent outwards at the bottom sufficiently to pass under " one card;" the recess is to receive the bent bottom. A curved strip of metal is pin-jointed to the plate and to the lid, and consequently the plate (and with it a card) moves up when the lid is opened. " The instrument may be separate and be slided separately by the hand." In " limp card cases" a piece of leather or other substance is attached to the plate and to " the flap or " other part of such card case;" or the leather may be separate from the flap and be raised by hand. The spring may be dispensed with in limp cases, " because the instrument being so

" held as to press the cards upon their edges, it will be found " that all the cards but the one which the instrument has taken " hold of may very conveniently be kept down by such pressure of " the left hand, while the instrument is pulled up with the right."

[Printed, 6*d*. Drawing.]

A.D. 1844, March 14.—N° 10,103.

STEPHENSON, Frederick.—" Improvements in bookbinding " and apparatus for cutting book and other folded paper, part of " which improvements are applicable to penholders." The improvements in bookbinding consist in applying to the covers and backs of books, (1) tortoise and other shells of a similar character and stained horn; (2), transparent surfaces of horn over prints, paintings, &c.; (3), veneers of wood.

1. Sheets of shell or horn are softened in hot water, allowed to cool whilst kept pressed between flat surfaces, and then scraped. The back surface is then "whitewashed," coated with melted glue, and caused to adhere to a thin sheet of wood. The front surface is dressed, inlaid if required, and polished. The sheet combined with the wood is glued or cemented to the millboard cover; sometimes silver or other metal edges are added; sometimes the shell is made "to lap over and cover the edges of the millboard," and strips of shell are applied "to the inner surfaces of the covers " in such manner as to have the appearance of the shell folding " over." For covering the back of a book the shell is bent while hot on to a wood block; when cool, dressed, &c. it is glued or cemented on to the back; the edges are bevelled. If a stiff back is not desired, strips of shell, "set edge to edge," are glued or cemented on to cloth, leather, or vellum.

2. The front surface of the print, &c. is coated with paste, and a sheet of horn "well polished on both sides" is laid thereon; the superfluous paste is driven out by pressure, and the sheet is fixed on to the millboard with paste or glue.

3. The veneers, "when finished and polished," are glued " to the millboard covers and also to the backs or to covers of " thin wood;" in applying them to the backs they are to be first bent to the proper shape.

The other parts of the invention are described in the series " Writing instruments and materials."

[Printed, 6*d*. Drawing. See Repertory of Arts, vol. 5 (enlarged series), p. 16.]

A.D. 1845, March 3.—N° 10,543. (* *)

SHAW, William.—"A machine for paging books and numbering documents consecutively and otherwise, and for printing dates, words, marks, numbers, or impressions in an expeditious manner."

Six type wheels, with the numerals 0—9 on them, are placed side by side on a small drum revolving in a fork at the lower end of a vertical bar. The last wheel may have "any words or letters that may be required." The bar is brought down by a hand lever for the impression, which is given upon a small bracket traversed by an endless "setting-off" cloth, and recovers itself by a counterweight and springs. The type wheels are all provided with eleven notches, into which the wedge-shaped heads of pins are pressed by spiral springs round the pins, to hold the type wheels firm during the process of printing. A stationary click takes at each rise of the bar into a ratchet wheel connected with the unit's wheel which thereby makes one-tenth of a revolution. The ten's wheel is actuated by a moveable click, which rests upon a rim at the side of the unit's wheel, until by the rotation of that wheel a recess in the rim is brought opposite to the click, which is then pushed forwards by a spring, and a pin on the click acting against a projection on the ten's wheel moves it one stage in advance. The other type wheels are in like manner caused to move at the proper intervals. In paging books, the odd numbers are printed first, which requires the unit's wheel to have 1, 3, 5, 7, 9, twice over. The inking is performed mechanically. A "feeding roller," which lays the ink upon the types, takes it from the under side of a brass piece fixed to the fork of the bar, in the corner of which piece the ink trough is placed. The depression of the bar causes the elevation of certain "side plates," and the consequent rotation of the trough roller, a "working" roller, during the downward motion of the plates, distributing the ink.

A modification of the above for railway ticket printing. The material is propelled at regular intervals by pressure rollers in connexion with the numbering machines, after which it is cut by a knife, the whole machinery being moved by a handle similar to that above mentioned.

[Printed, 10*d*. Drawing. Repertory of Arts, vol. 6 (*enlarged series*), p. 212; Mechanics' Magazine, vol. 57, p. 411; Law Journal (Exchequer), vol. 22, pp. 26 and 210. Enrolment Office.]

A.D. 1845, May 20.—N° 10,673.

NICKELS, CHRISTOPHER.—"Improvements in binding and "covering books, pamphlets, portfolios, writing cases, and other "similar articles." The patentee employs "gutta percha and "sometimes gutta tuban in various states thereof, in lieu of the "matters and things hitherto employed" in binding and covering books, &c.

1. He uses a solution of gutta percha to unite the backs of sheets previous to their being boarded; the process is similar to that "known by the name of caoutchouc bookbinding," and he sometimes for greater strength puts over the coating of gutta percha a strip of cotton, linen, &c. "a little wider than the back of the "volume of leaves;" or he puts into transverse grooves, before applying the coating, "pieces of cord about twice as long "as the back is broad."

2. He substitutes a solution of gutta percha for paste, size, gum, or glaze, "wherever the same are ordinarily employed in any "of the processes of binding and covering."

3. He uses a solution of gutta percha "as a vehicle for colours" in coloring and marbling the edges and covers of books, &c., and "gutta percha in the sheet state as a substitute for vellum, leather, "paper, and cloth in binding and covering."

4. He employs in lieu of pasteboard "a composite material con"sisting of gutta percha blended with paper pulp or leather dust, "or of bats or fleeces of wool, cotton, or other fibrous material, "cemented together by gutta percha."

The solution which he uses is "that obtained from the native "substance after it has been cleansed and dissolved by the pro"cess for which Letters Patent for England have been granted to "Richard Archibald Brooman, bearing date the 11th day of March "1845." When a greater degree of flexibility is required, he mixes with the gutta percha a small portion of caoutchouc, about two parts of the latter with eight parts of the former.

[Printed, 4*d*. No Drawings. See Repertory of Arts, vol. 9 (*enlarged series*), p. 165; London Journal (*Newton's*), vol. 28 (*conjoined series*), p. 33; Mechanics' Magazine, vol. 44, p. 253.]

A.D. 1846, March 25.—N° 11,149.

SMITH, CHARLES.—"Improvements in cooking and culinary "utensils, and methods of heating and suspending or fastening "articles of domestic use, and similar purposes." Amongst the articles described are, 1, a box or frame for holding a book or papers; 2, an instrument for holding a book open; 3, a paper clip; and 4, a book or reading stand. 1. It is made of tin, with one or more compartments, "and occasionally a lock-up cover." Papers are held in place as a book by sliding in each fold a narrow strip of wood or other material; the strips are passed in at slots; or instead, string or strips of india-rubber may be used, " fixed to perforated holes at each end of the edges or rim of the " slots or flanges," and fastened within the folds by hooks and eyes. A hinged rod may be added at the back of the box " so as " to serve the purposes of an easel." 2. Two hinged revolving arms slide under the covers of the book, and two others upon the leaves; these are fixed by thumb screws which work in the frame to which the former are connected. 3. This consists of two plates, the one fixed to the bottom of a socket, the shank of the upper one working up and down in a slot in the socket by means of a thumb screw or a spring. 4. A table-top revolves on a pin and socket and is held in place by a thumb screw. On each side is a projecting bar, carrying on one end a counterpoise and at the other a socket for the reception of an upright. A reading desk is hinged to the upright and is held in any inclined position by a " quadrant " circular bar" and thumb screw. Bent plates slide in inclined slots in the sides, and attached to the upright are " candlestick, " inkstand, and powder box." Or the upright and its appendages may be secured to the edge of a table or like article by a clamp and thumb screw.

[Printed, 3s. 6d. Drawings. See London Journal (*Newton's*), vol. 29 (*conjoined series*), p. 356.]

A.D. 1846, November 19.—N° 11,455.

BROCKEDON, WILLIAM, and HANCOCK, THOMAS.—" Im- " provements in the manufacture of articles where india-rubber " or gutta percha is used." The patentees state that the peculiarity of their invention consists in " operating," *i. e.*, producing the " change" by immersion " on the manufactured article, in " place of acting on the raw material of caoutchouc, gutta percha, " or the compounds of these materials." Among the many purposes to which they apply their invention, they " employ caout- " chouc, gutta percha, or compound, in binding books, portfolios, " and similar articles in the manner commonly practised with " caoutchouc, and immerse the necessary parts or otherwise apply

" the changing solvent to them," by which means they " obviate " the great defect in caoutchouc binding, that of stiffening in " cold weather." They also use leather coated and embossed, colored, printed, or otherwise ornamented (as described in former Letters Patent granted to Thomas Hancock) " for the surface of " the covers of books and other similar articles."

[Printed, 6*d*. No Drawings. See Repertory of Arts, vol. 10 (*enlarged series*), p. 103; Mechanics' Magazine, vol. 46, p. 504.]

A.D. 1846, December 15.—N° 11,495.

BINGLEY, MARK.—" Improvements in book-binding, and in " weaving materials used in book-binding, applicable also to other " weavings, and in preparing for and making alphabets for " accounts and other books, and in inking type therefor, and " other purposes, and in preparing sprinkled, granulated, or " mottled paper for bookbinders and others; applicable also to " the edges of books, and in graining or chequering Russia and " other leather." 1. " Applying sides or lids and backs to " books" :—The sides and backs are of metal (by preference galvanized iron), or of wood, or partly of wood and partly of metal. The metal is bent to suit the curve of the back, and bent forward about ⅛ of an inch at the side edges; the sides are secured to the back by slips of flexible material which is riveted to both; outer bands " continue the whole length of the book," and their ends " are turned inwards " to give additional strength, care being taken " that some of the rivets pass through the slips and " clothing." A piece of metal is also applied to the outer edge of the sides when they are of wood. Sometimes the sides are fastened to the back by hinges; these are formed by turning over the edges of the back and bands, or they may be made separate and riveted on. The metal back is not covered with leather, but is painted, japanned, or otherwise ornamented.

2. "The manufacture of head bands for books." These are woven so that " one part may be of inferior or inexpensive mate- " rial, so far as the same is stuck on to the back," whilst the other part " may be of silk, and have a bead produced in the act " of weaving." "The order in which the warp is arranged and " worked " for this purpose " may be varied." The patentee finds it advantageous " to use shuttles with springs applied of " india-rubber vulcanized," as he is thereby enabled " more

" readily to regulate the pressure upon the bobbin." He describes the manufacture of a shuttle.

3. This part relates to "applying inking apparatus to the " inking of type."

4. The apparatus for sprinkling, mottling, &c., is composed of (1) a frame, (2) a trough for containing colour, (3) a roller revolving in the trough, (4) a brush above the roller, and having a handle affixed to its axis, (5) a pressure plate above the brush (the pressure being regulated by a screw), (6) a stirrer set in motion by an eccentric on the axis of the roller, and (7) two straps, one passing over the neck, the other round the waist of the operator. The roller and the brush are geared together by toothed wheels. If more than one colour is required, more than one trough and roller are "placed side by side, and each having a " different colour."

[Printed, 2*s*. 8*d*. Drawings.]

A.D. 1846, December 21.—N° 11,512.

.**MYERS, George David, COOPER, William, and WANSBROUGH, James.**—"Improvements in the manufacture of " caps, bonnets, book-covers, curtains and hangings, show-cards " or boards, labels, theatrical decorations, and coffins." The part of this invention which belongs to the present series consists in " applying the process of flocking in the making of book-covers." The book is covered with cotton or linen fabric, and is then flocked over; or the fabric is first flocked and then applied " in " like manner to what has heretofore been practised when binding " books with other covering material."

[Printed, 4*d*. No Drawings.]

A.D. 1846, December 31.—N° 11,513. (* *)

DOWSE, Charles.—"Improvements in applying springs to " braces, to portfolios, to hats and caps, and memorandum and " other books;" and these are, first, " the modes of applying " springs to braces;" and this is principally fastening a strong ring or rings at the backs of braces. The ring or rings are " of " what is called vulcanized or converted india-rubber." Second, " the mode of applying springs to the straps of hats and caps," and " consists of applying a ring or rings of permanently elastic " *india-rubber* to the straps used for keeping a hat or cap on the

" head." Third, "the mode of attaching springs to portfolios " and memorandum and other books," by applying spring rings of permanently elastic rubber, "affixing them to the backs of " portfolios or memorandum books in any convenient manner."

[Printed, 1*s*. 2*d*. Drawings. See Repertory of Arts, vol. 10 (*enlarged series*), p. 80; and Patent Journal, vol. 3, p. 177.]

A.D. 1847, June 29.—N° 11,772.

YOUNG, THOMAS.—" Improvements in card cases, and retaining or fastening papers, deeds, and fabrics." In card cases " an inclined plane" is introduced "to facilitate the withdrawing " of a single card." The case "is made with a lid to open, and " is in external figure or shape similar to a book," but the shape and arrangement may be varied. The inclined plane is at the upper end, "and there is an opening over the inclined plane by " which the case is to be filled." To remove a card the case is to be tilted; the cards will fall to the inclined plane, "and then " by pressing on the upper card by a finger, and sliding the card " outwards, it will rise up the inclined plane and separate from " the other cards."

The first described apparatus for fastening papers, &c., consists of a piece of cardboard or other material and a doubled cord; the cardboard is perforated with two holes, which may, if necessary, be bound round with metal; the cord is passed through the holes, and the ends " are drawn through the loop which comes " at the front;" the papers, &c., "are placed under the portion " of the cord which comes at the back." Or there may be three holes "so as to make two compartments" for papers, &c. Again, " the apparatus may be made with different numbers of holes " according to the object to be obtained;" this arrangement is described as applied to a portfolio. The covers are connected " by flexible hinge joints " to pieces which are themselves "connected together by flexible joints." There are eyelet holes in the pieces (near the top and bottom) to receive the cords, and other sets of eyelet holes for other cords may be made in the pieces at suitable distances. The second consists of a series of curled springs which are screwed to a stand of wood or other material; the papers, &c. are held "between the curled parts." This sort admits of several modifications, drawings of which are annexed to the Specification.

[Printed, 1*s*. 4*d*. Drawings. See London Journal (Newton's), vol. 32 (*conjoined series*), p. 113.]

A.D. 1847, August 5.—N° 11,832.

BIRCHALL, Thomas.—" Improvements in folding newspapers " and other papers." The patentee has combined "mechanical " parts into a machine," whereby papers " may be folded and " refolded " " similar to what is now done by hand." On the main framing is an axis " to which motion is given in any suitable " manner," and on the axis is a pinion taking into and giving motion to a toothed wheel " which turns upon a stud projecting " from the main framing, and which gives motion to the other " parts." The paper to be folded is placed on a bed plate, and above is a bar having affixed to it a blade " by which the first " creasing for folding is effected." The bar and blade " have an " up-and-down motion given to them " through their connection with the toothed wheel. The blade presses the paper down between a pair of rollers, " thereby giving a preparatory fold " to it, whence it is conducted down to between a second pair of rollers. The paper is now in a position to be acted upon by a second folding instrument projecting from a slide, which " is caused to " move to and fro between suitable guides carried by the main " framing." The movement of the slide to the left " causes the " blade to come against the folded paper resting between the " rollers, and its continued progress in that direction will cause " the paper to be again folded at right angles to the former fold " by causing it to pass between the centre pair of rollers." The blade " forces the fresh fold " between springs, and then recedes, leaving the paper between the springs and a pair of " upright " rollers." The paper is now in a position to be operated upon by a third blade, " which is capable of sliding to and fro on V " guides carried by the framing ;" in the movement of this blade " towards the back of the machine it will press against the paper, " which will readily release itself from its holding between the " springs ; and the paper will be again folded in half " by being forced between the upright rollers, when the blade " will again " recede towards the front," leaving the paper in a position to be acted upon by a fourth blade, which " is supported by its arms " in bearings from the main framing." This blade " will cause " the paper to be folded a fourth time by its being pressed " between other rollers. " The paper thus having been several " times folded, each time at right angles to the former fold," is *conducted by* means of tapes partly round a drum, and thence out between another pair of rollers from the machine to any suitable receiver. The connection and motion of the several parts are detailed in the Specification, and the paper, instead of being fed into the machine by hand, "may be conducted by means of " tapes direct from the printing machine to the folding machine."

[Printed, 1*s*. 10*d*. Drawings. See Repertory of Arts, vol. 11 (*enlarged series*), p. 193.]

A.D. 1850, July 3.—N° 13,166.

STARR, CHARLES.—" Improvements in bookbinding." The first part of the Specification contains a very minute description of a machine for "backing" books, the novel parts of which are explained (sufficiently for an abridgment) by stating to what the patentee lays claim:—First, " the use of a roller of the whole " length, or part of the length of the back of the book, either " plain for a plain back book, or grooved for a raised banded " book, which rolls over the back of the book from side to side, " or from the centre to the sides, and has a yielding pressure " applied to it by weighted levers or their equivalents." Secondly, " swinging clamps or book-holders, for the purpose of holding " the book for backing, hung upon pivots or journals, and " capable of swinging back and forth so as to cause the back of " the book to describe an arc of a circle and present every part " to the face of the roller." And thirdly, " gauges sliding upon " inclined bars, that they may be set to form guides for placing " both ends of the back of the book at an equal or nearly equal " elevation in the clamps, so as to cause each part to receive an " uniform pressure, and may be drawn back from the book without dragging or nibbing the surface of the back."

In the second part is an equally minute description of a machine which the patentee calls a back finisher, to be used in embossing, lettering, and gilding the backs of books " after they " are forwarded or in leather." The novelties claimed for this machine, are, first, " one or more circular engraved rollers of the " whole or part of the length of the book, working across the " back of the book and having their pressure upon the book " graduated by weighted levers or their equivalents," for the purpose of embossing or gilding, " or what is technically termed " finishing the backs;" second, " clamping or holding the book " in a swinging book-holder," which is hung as before described, and brings each part of the back to the finishing roller, " so that " it shall receive an equal pressure all over its surface;" and third, "forming circular gilding tools of any required pattern for " gilding books, by having a case or hollow metal cylinder, fitting " on a roller and having an opening cut in it of the required form " of the panel or outer edge of the pattern; the part of the " periphery of the roller within the opening in the case having " any required number of small tools of any suitable form or " pattern secured to the periphery of the roller, and the surfaces " of the said tools standing up even with the outer surface of the " hollow cylinder."

The third part describes a machine "for the purpose of pre- " paring sheets of books printed for the use of the blind with " raised letters, and the manner of inserting thick marginal " papers between the two halves of the sheet along the margins to " equalize the thickness of the printed page and the margins." Of this machine the patentee claims "the exclusive right to the " construction, arrangement, and use." The principal parts are, 1, a table supported on a frame and having "a pair of ribs " running lengthwise over the top;" 2, a moveable bed, "some- " what larger than the half of the sheets to be operated upon," and placed on the ribs; 3, " suspended protectors " (three in number) at one end of the table; 4, a platen on the other end of the table; the bed is placed in the middle of the table "to " receive the paper," then moved by hand under the protectors " where the paste is applied to the margin of the sheet," and " the strips of thick margin paper are inserted," and thence under the platen, "where the pressure is applied to cause the pasted " parts or margins to adhere;" 5, "a shaft nearly the length of " the table," placed "immediately under the lower section of the " frame," and carrying two cams, each "about one foot from the " ends of the table, or immediately under the centre of the sheet " of paper when at either end." Over each cam "there is an " upright shaft having a flat surface at the top, six or eight inches " in diameter, the surface falling when down just below the upper " edge of the ribs." The bar is worked by a treadle, and the shafts "are forced upwards by the cams against the under side of " the bed." These and the other parts of the machine are described at length. The sheets are afterwards "put in a bulk in " a standing press, and left fifteen or twenty minutes to render

" the adhesion of the pasted parts more perfect, and then a folder " is passed round the grooves formed by the thick margin paper " to make the shoulder more prominent and perfect."

[Printed, 1*s.* 4*d.* Drawings. See Mechanics' Magazine, vol. 54, p. 18; Patent Journal, vol. 10, p. 272.]

A.D. 1850, July 17.—Nº 13,175.

SMITH, Edward N.—" Machinery for folding sheets of paper " or various other matters or substances capable of being folded " thereby." " The operative parts of the machine " are supported in a strong frame; they are arranged to fold a sheet four times, the first " across the paper;" the second " at right angles to the " first; the third " parallel to the second;" and the fourth " perpendicular to the third." The folding is effected by " converging surfaces and elevating blades," consequently a greater or smaller number may be introduced, and the paper may be delivered from the machine " after any number of folds within " the number it is capable of producing has been made " by throwing the other parts out of gear. A series of endless belts, " run around suitable supporting cylinders," and carry the sheet placed on them " directly over a thin horizontal blade," which is " arranged directly between the two middle endless bands and " below their top surfaces." The blade is " suddenly elevated " against the middle part of the sheet, and so as to raise it off " the endless bands and force it upwards between two other " series of endless bands," each supported by and moving round cylinders, and the further one similarly provided with a blade. This second blade rises, strikes the sheet " midway of it and on a " line at right angles to that at which it was struck by the first " blade," and raises it " between other converging and moving " surfaces or endless bands arranged and operated so as to " impart to it another double or fold." The sheet, after receiving its third and fourth folds in a like manner is discharged between rollers, " and falls down a chute or inclined plane."

" Each blade may be elevated and depressed at proper times by " any suitable mechanism;" that which the patentee generally uses and the gear wheels and shafts for driving the cylinders and connecting the various parts are fully explained in the Specification.

[Printed, 1*s.* Drawing. See Mechanics' Magazine, vol. 54, p. 76; Patent Journal, vol. 10, p. 261.]

A.D. 1851, October 2.—Nº 13,761.

CUSSONS, THOMAS.—"Improvements in ornamenting woven "fabrics for bookbinding." "The novelty of the invention "consists in combining the process of marbling with woven "fabrics," the most suitable being "those which have been "stiffened and then glazed by hot or cold pressure." The process differs but little from that of marbling paper. The fabrics "are to be left white or to be dyed or prepared of the "colour desired for the groundwork, and are to be stiffened and "glazed or glazed only." The workman "will prepare his "trough with liquid, as when for marbling paper, and he will "throw or deposit the color, combined with or without metallic "substances, on to the surface, using one or more colors, "according to the effect he desires to obtain." Having thus prepared the surface, he will lay the fabric "with the glazed face "downwards on to the color;" he will then remove it from off the color on to a rod and hang it up to dry; when dry it "is to "be glazed to obtain a smooth and bright side." All the varieties of process adopted in marbling paper, such as using "a comb or "rake," or "a frame with numerous points or projections" to produce "a curling effect" may be employed "when ornamenting "woven fabric, when like effects are desired to be produced." If the colors employed "interfere with the subsequent process of "glazing," the patentee sizes the fabric "after the process of "ornamenting."

[Printed, 4*d.* No Drawings. See London Journal (*Newton's*), vol. 36 (*conjoined series*), p. 171; Mechanics' Magazine, vol. 52, p. 197; Patent Journal, vol. 8, p. 285.]

A.D. 1851, November 19.—Nº. 13,819. (* *)

BESSEMER, HENRY.—"Improvements in producing orna- "mented surfaces on woven fabrics and leather, and rendering the "same applicable to bookbinding and other uses."

"Firstly, the various methods of ornamenting woven fabrics by "metallizing their surfaces." "For effecting this purpose I "prefer to use glazed calico, which should be stretched out on a "long table, with the glazed side upwards, and, after being damped, "so as to soften the 'dressing' used in its original manufacture, "the metallic powder is to be applied with a soft brush or piece of "*cotton* wool. It is then passed through a 'calendar,' the bright

" roll being well heated, and in contact with the metallized surface " of the fabric." The material may afterwards be embossed or printed upon. The material to be metallized may be previously dyed of a suitable bright colour. The adhesive properties of the dressing may be supplemented by " starch, paste, &c," " Japanners' " gold size," " copal varnish," diluted with spirits of turpentine, or other suitable resinous compounds, in lieu of paste or starch, or a third coating of " gutta percha," may be used, which will produce a waterproof material. A coating of lacker may be given to the metallized surface, " to preserve the metal from oxidation, " and in some cases to give it a factitious color."

" Secondly, the printing or otherwise producing on woven fabrics " a series of coloured lines, and afterwards, by pressure or embossing, producing such ribs or patterns thereon as will break up " the coloured lines, in the manner and for the purpose herein " described."

" Thirdly, the ornamenting the surface of woven fabrics with " leather." The leather, reduced to powder, is applied to the fabric, the surface of which has been covered with "gutta percha " or other pliable and adhesive matter." The fabric so coated is then passed through heated embossing rollers, by which any grain, design, or pattern may be given; or very thin shavings of leather may be glued to a fabric and embossed as above.

" Fourthly, the formation of a partial vacuum beneath textile " fabrics, to facilitate their absorption of the colouring matter " used in printing or stencilling patterns thereon." The under " part of the table on which the fabric to be printed is laid is in communication with an exhausting air-pump, and the table itself is perforated with numerous holes, to allow of the action of the partial vacuum in drawing the colour into the fabric.

" Fifthly, the peculiar arrangement of apparatus herein described " for producing impressions, sunk or in relief, on the backs or " edges of books, and for giving them any desired amount of " curvature."

[Printed, 8*d*. Drawing.]

A.D. 1852, April 17.—N° 14,067. (* *)

NEWTON, William Edward.—(*A communication.*)—" Improvements in machinery or apparatus for cutting paper, paste-" board, or other similar substances."

The first part of this invention consists in combining "a vibra-" ting knife with a moveable platform and clamp, so that the " paper can be firmly held and clamped on the platform elevated " to submit the paper to the action of the vibrating knife." To effect the "vibrating" or reciprocating movement of the knife, the desired motion is imparted to it by two suitably formed cams placed on a horizontal shaft, and acting against two rollers placed on the face of the knife. One of these face cams causes the knife to slide in the frame in one direction, and the other to bring it back. The cam shaft may be turned by a crank or otherwise. The platform on which the paper to be cut is placed forms part of a vertical sliding frame adapted to slide in guides in the main frame, and may be set up to the knife by means of a rack and sector at each side actuated by a hand lever. The "clamp," to hold the paper tight on the platform during the operation of cutting is a "bar," supported at each end by two vertical rods that slide in the same guides as the frame of the platform. These rods are provided at their lower ends with racks engaged by the cogs of two pinions on a horizontal shaft mounted in the sliding frame. This shaft is provided with a lever, the action of which will cause the clamp bar to be elevated or to be depressed on the paper, as desired. A suitable catch is applied to prevent the lever from receding.

The second consists in "an arrangement of platform or table, " and a carriage or feeding motion with a moveable clamp for " clamping pasteboard, &c. on to the platform, and the com-" bination of a stationary and moveable shear." The pasteboard being placed on a platform is fed towards the shears by means of two racks actuated by a pinion, ratchet wheel, levers, and cam. The clamp bar is then brought down by rods actuated by cams and springs, and holds fast the pasteboard, while the moveable knife is caused to descend by means also of rods and cams.

[Printed, 1*s*. 6*d*. Drawings. See Mechanics' Magazine, vol. 57, p. 336.]

A.D. 1852, September 10.—N° 14,286.

TOUSSAINT, HENRI FRANÇOIS.—"Improvements in obtaining " a product from the wood of the cactus." The patentee utilises " the woody part of the opuntia or fig tree of Barbary." He informs us that its trunk and branches, " though apparently a " *solid mass of* wood, when deprived of their bark and exposed

" to damp and heat, will become disorganized, and be found to " be composed of a leafy matter or a kind of leaves superposed " on each other, which may then be easily separated," and that " the interior of these leaves is composed of woody fibres, which " when freed from their covering display a kind of network, " having the most varied designs." The exterior surface of the leaves is to be " scraped and deprived of the skin and freed from " all roughness," and the leaves and " the different layers of " wood superposed and contained in the leaves, branches, trunk, " and roots " are then to be boiled for an hour in " slightly " acidulated water, either with a weak acid or with an alkali," (steam may be employed) and afterwards washed in water. Only the woody part now remains, and this when perfectly dry " acquires great solidity," which is still further increased " by " means of a varnish," such as " is generally employed for woods," and strengthened by wires " which may be covered with cloth or " paper," or by " metallic strips, or in fact any other suitable " means for giving greater solidity." The wood of the opuntia " when only seasoned by the air and rain may be employed, but " the woody fibres do not then offer the same solidity." The patentee states that the applications of this product are too numerous to mention; but he names a few and amongst them bookbinding.

[Printed, 4*d*. No Drawings. See Mechanics' Magazine, vol. 58, p. 255.]

PATENT LAW AMENDMENT ACT, 1852.

1852.

A.D. 1852, October 1.—N° 24. (* *)

POOLE, Moses.—(*A communication from Mr. Goodyear.*)—" Improvements in the making covers for and in binding books and " portfolios, and in making frames for pictures and glasses ;" and these are, first, applying " the hard substance of a whalebone or " ivory-like texture produced by combining india rubber and

" sulphur, and subjecting the same to heat, to the making of " the covers of books and portfolios, and to the making of frames " for pictures and glasses;" second, connecting " the leaves of " books together with india-rubber combined with sulphur, and " converting or vulcanizing the same by heat."

The india-rubber compound is rolled into thin sheets, which " are placed on thick paperboard or strong woven fabric," " the " india-rubber being turned over at the edges, according to the " size and character of the book or portfolio, or the covers and " back are made wholly of sheets of the compounded materials, " by using thicker sheets of the compound, with fibre or woven " fabric adhering to the inner surfaces, and having shaped them, " they may be pressed into a mould to obtain the desired device " or character; and the process of heat may be conducted whilst " the compound is between the surfaces of the moulds," or otherwise, " then producing the device by pressure between dies or " engraved surfaces." " The hinges are produced by vulcanized " india-rubber alone, applied to the surfaces of a woven fabric." In the second part of the invention the leaves of the book at the back " are roughened and coated with india-rubber cement con" taining sulphur for producing vulcanization." " Straps of " woven fabric may be applied at intervals, extending across the " hinge for the purpose of strengthening the back and hinge " of the book," and heat "till the change called vulcanization " is produced, which will generally result in about fifteen minutes " by applying heat of about 265° Fahrenheit by a metal or other " surface." " In making the frames for pictures and glasses," " the compounds above described" are either used " as veneers, " after the sheets are vulcanized, to cover the surfaces of wood " frames," or else moulded solid to the design or device desired.

[Printed, 4*d*. No Drawings.]

A.D. 1852, October 1.—N° 73. (* *)

WILKINS, EDWARD.—" Improvements in ruling and folding " the leaves of account books, or other books used for mercantile " purposes, and in making entries therein, and delivering vouchers " therefrom with accuracy and dispatch." The patentee thus describes his invention:—" I form such a book by stitching sheets " of paper in the middle, as in the usual mode of making account " books. I then fold over one half of each leaf (or half sheet) on

" to the other half, and I have the paper so ruled that the lines " on the upper fold (or quarter sheet) shall correspond with the " lines on the under fold (or quarter sheet)." " I then place a " piece of carbonic or other marking paper between the folds, " and provide a thin metallic or other hard plate to place under " the lower fold, in order to make a clear impression." " If the " book be made of ordinary paper, the entries must be written " with a pencil, but if made with prepared paper, a blunt point " may be used." A voucher is given by tearing off the portion of the upper fold on which the items are written, and " a perfect " fac-simile " will be left in a complete book for the use of the vendor. The same object may be effected by placing under a leaf of an ordinary account book a thin plate (as before described) and upon the leaf a billhead or similar document with a piece of marking paper between them. A fac-simile of any items written on the billhead will be found on the leaf of the account book.

[Printed, 1*s*. Specimen annexed.]

A.D. 1852, October 19.—N° 439. (* *)

O'BYRNE, Martin Walter, and DOWLING, John.—" A " machine for cutting paper, mill-board, leather, vellum, sheet " metals, and other suitable materials, for useful and ornamental " purposes." This machine consists, first, of " arrangements of " parts for effecting the raising and lowering of the table, and for " actuating the knife employed." The table on which the paper is placed is secured to a sliding frame and caused to rise when required by the " gravitating power " of a weight placed on the end of a lever, the other end being attached to the bottom of the frame by means of a stud. The table may be also elevated and depressed by a rack formed of pins and a pinion. The pinion shaft has an universal joint which admits of the pinion moving to the other side of the rack pins, as in a common mangle, and thereby reversing the movement of the rack which actuates the table. The knife is attached to a casting which is caused to slide backwards and forwards in a slot actuated by a crank and rod. By another arrangement the table is made stationary and the knife with its framing is caused to descend by means of a worm screw, acting into a rack attached to the framing. The worm screw as it rotates in work with the rack slides up and down, as required, upon a feather on its shaft, and thereby actuates a lever, the further end of which causes the knife frame to be elevated or depressed, as required. The knife in this case receives its horizontal to and fro motion as before; when the threads of the worm are elevated beyond the teeth of the rack the further depression of the knife ceases.

[Printed, 1*s*. Drawings.]

A.D. 1852, November 3.—N° 628. (* *)

SIDEBOTTOM, ALFRED.—" Improvements in machinery or " apparatus for cutting books, paper, and other substances." These improvements consist first in an arrangement of parts whereby the book or other article to be cut being placed on a table is caused to move forward by means of a bar actuated by a lever and excentric, and be brought under the cutter. A presser is then brought down by means of a cam which holds the article tight till the platen, suitably guided, is caused to descend by means of two excentrics; the cutter or cutters are fixed to the platen by means of adjusting screws, and descend with it.

Secondly, in the construction and use of " adjustable cutters." Two of the cutters for cutting a book being attached to moveable holders may be adjusted in the required position on the platen and fixed by screws.

[Printed, 1*s*. 2*d*. Drawings.]

A.D. 1852, November 11.—N° 715. (* *)

WYPER, JAMES COWAN.—(*Provisional protection only.*)—" Im" provements in the figuring and ornamentation of bookbindings " and covers of a similar character."

The invention consists in substituting lithographic or block printing for the ordinary " tooling " or embossing. The design, with any lettering or titling is transferred to a stone or cut on a block, and is then printed on the cover. If the surface to be ornamented be of a light tint, as paper, light leather, or cloth, the device may be printed in black or other dark ink, or gold or other leaf. Bronze may be applied instead of ink, in the ordinary manner of color printing. " It is also clear that the printing " of the devices may be accomplished by the zincographic, ana" static, or other modification of the common lithographic processes, " tooled work in gold or other leaf being successfully imitated by " any of these processes."

[*Printed, 4d.* No Drawings.]

A.D. 1852, November 29.—N° 899.

WESTBROOK, Frederick.—(*Provisional protection only.*)—"Improvements in clasps for books." The clasp or clip is moveable, and "so constructed as to serve either to keep a book "closed or to be used in holding it open." It is "in form and "principle like a pair of pincers;" when the book is not in use, "the handle" clips the book, and "the head" serves to hold a pencil; but when the book is in use, the head is employed "to "hold the back and leaves tightly together by pressing the ends "between the thumb and forefinger."

[Printed, 6*d*. Drawing.]

A.D. 1852, December 21.—N° 1123.

DE LA RUE, Warren.—"Improvements in preparing the "surfaces of paper and cardboard," also "in the preparation of "paper to be used in memorandum books to be written on with "metallic stiles." The patentee employs an enamel composed of oxide of zinc and gelatine; the former "should be well ground "in water," and the best mill for the purpose is the one for which letters patent were granted to Charles Jack on March 29th, 1852. The zinc should be passed through the mill two or three times, "using as little water as may be;" after this it is to be mixed with a solution of gelatine in the following proportions:—about 8 lbs. of the wet zinc "as it comes from the mill," and "2 pints of a strong solution of gelatine (containing one fourth "part of its weight of dry gelatine), and 3 pints of water." After the mixture has been passed through a fine sieve, it is to be applied to the surface of cardboard and paper "in a similar "manner to that practised for lead enamel;" the former requires from two to four coats on the face and one or more on the back, the latter one or two coats on the face only. The coated surfaces are to be pressed between glazed boards, and "the finishing "polish" is to be given by the pressure of copper plates.

In preparing paper for memorandum books, "as it is not necessary to have so high a polish as on the other enamelled "papers," the patentee uses "double as much water," namely, "two pints of strong size and six pints of water." For writing he employs by preference "stiles or points of copper, or alloys of copper."

[Printed, 4*d*. No Drawings.]

1853.

A.D. 1853, January 29.—Nº 230.

CORRY, John Ryall, and CORRY, James Barrett.—"A "new and improved method of dressing lamb-skin leather, and "cleaning the wool therefrom." Leather dressed according to this invention is particularly applicable to the binding of books and to such other purposes "as require a bright and clear grained "skin." The skins are soaked in water, and when sufficiently soft are worked on the flesh side. They are then put into a solution of "salt or salt prunella, saltpetre, nitrate of soda, or "weak lime water" for about six hours. When drained they are placed "in a tainting stone" (being hung on crooks or otherwise suspended therein) and left there until the operator "can "readily twitch out the wool," when they are taken out and subjected to the operation of "stiming." The next process is to remove the wool, after which the skins are immersed in clean water, left to drain, and again put into clean water and allowed to remain therein "for the space of from six to twenty-four hours, "according to the size and substance of the skins and state of "the weather," until the grease and other superfluous matter can be freely worked out on the grain side. "After each skin "has been worked over," it should be thrown into clean water "to prevent the action of the atmosphere on the grain." The next process is to rince them in other clean water, and then to put them into "clean weak solution of lime;" when they have remained in it long enough "for all the impurities to work off well "on the grain and flesh side," they are removed into clean water and left in it for "from twelve to twenty-four hours." They are next "worked loosely" by hand or by stirring with a pole in "a "solution of muriatic or sulphuric acid or any other suitable "acid diluted to a strength sufficient to neutralize the lime in "the skin." After draining for from two to three hours they are trodden in warm water until they are soft, well drained, and again trodden "in a weak solution of common rock salt, or bay salt, "saltpetre, salt prunella, or nitrate of soda" for about an hour; after this they are again drained and put into sufficient clean water to soak out "the saline and other objectionable matters." They remain in the water long enough "to enable them to be

" struck over on the grain side," after which they are in a fit state to undergo the process for converting them into leather.

The patentees describe a process which may be substituted for " stiming," and one that may be used instead of the final immersion.

[Printed, 6*d*. No Drawings.]

A.D. 1853, February 3.—N° 292.

HECKETHORN, John.—" An improved coloring matter for " coating or covering the exterior or interior of buildings, some " of the ingredients of which such coloring matter is composed " being capable of conversion into size, paste, and ground color " for priming or giving the first coat or covering to work intended " to be colored with oil paint." The ingredients of eight mixtures (and the method of making them) are described in the Specification; the first of the mixtures, a " paste which is appli- " cable to bookbinding and other similar purposes" belongs to the present series. It is made as follows:—" I take," says the patentee, " of any kind of blood, but I prefer for the purposes of " my said invention, bullock's blood, and to every 100 lbs. " thereof I add about 10 lbs. of lime, slacked, pulverized, and " sifted, and I mix and incorporate these two ingredients or " matters well together by stirring them in a suitable vessel; I " then cover the mixture so as to keep dust and dirt therefrom, " and allow it to stand in a cool place for about six days; after " which it is fit for use, requiring only to be thinned, which may " be effected by mixing a sufficient quantity of clean water there- " with, and stirring it until it has attained the consistence of " thick paste when made from flour, and such as is commonly " employed by bookbinders."

[Printed, 6*d*. No Drawings.]

A.D. 1853, February 16.—N° 406. (* *)

SY, Edouard.—" Improvements in bookbinding;" and these consist in " making the backs of two or more parts longitudinally, " and applying steel or other springs to the back in order that " books (particularly large ones) may open and close more con- " veniently; springs of caoutchouc may be used, as well as of " metal."

[Printed, 6*d*. Drawing.]

A.D. 1853, February 16.—Nº 407.

PERRY, John George.— " Improvements in bookbinding, to " facilitate the finding of places in books." This invention is peculiarly applicable "to directories, dictionaries, calendars, and " in general to books of reference, and others having chapters, " sections, parts, or other subdivisions." Recesses are cut in the edges of the leaves, and the contents of each portion of the book are indicated by lettering; " hence by placing the point of the " thumb in any one of the recesses the book may be opened at " the desired page." The recesses may be of any form and " may be cut in either direction, and on the fore edge, the top " edge, or the bottom edge of the book;" they admit also of " being colored or gilt in addition to their being distinguished " by letter, cyphers, or words referring to the several subjects." The edges also of the leaves are lettered to correspond with the recesses.

[Printed, 6*d*. Drawing.]

A.D. 1853, April 27.—Nº 1015.

JOHNSON, William.—(*A communication.*)—" Improvements " in machinery or apparatus for marking, ruling, or ornamenting " surfaces." The especial application of this invention is to the ruling of paper, but " a machine on this principle may be " adapted to various useful purposes in ornamenting surfaces, " such as the diceing of leather or ornamenting book backs, the " pens being simply required to be replaced by suitable dicers or " markers." The following are the principal parts of the machine:—1. A fixed table "fitted with two sets of parallel " and grooved rails," one set being used when ruling longitudinal, the other when ruling transverse lines. 2. A square raised table " enclosed by these four rails," and having the paper secured upon it by a hinged frame. 3. An ink reservoir (on one side of the enclosed space) which may be subdivided into compartments for colored inks if required. 4. A carriage consisting of a metal frame, the under side of which is furnished with four wheels, " running in the grooves of the rails;" it is fitted with several sets of pens arranged in parallel rows, " and fixed to straight " edges," which rest at their extremities upon brackets. The edges or bars are attached to the brackets " by screws passing through " *slots formed* in their ends, in order that the pens may be ad-

"justed laterally." The pens in one series "are made to correspond with the intervening spaces of the series in front, and thus the spacing of the lines may be readily effected by having a short length on one end of the straight edges or bars graduated or divided to a scale." The arrangement of the pens and their holders is particularised in the Specification. 5. A horizontal moveable rod under each series of pens, which elevates the whole of a series at one time. 6. A handle connected to the rods by levers and sliding bars; their arrangement is fully explained in the Specification. 7. A helical spring, which draws back the sliding bars when required.

The carriage is advanced to the reservoir; the handle "is pressed so as to cause the pens to lower themselves into the ink; they are then elevated by the helical spring, and the carriage is drawn as far as the edge of the paper;" the pens are brought into contact with the paper, and the carriage "is traversed over it" along one set of rails. "The same process is adopted for ruling the transverse lines, which may be effected by placing the carriage on the other pair of rails; or, if preferred, another carriage may be employed."

[Printed, 8*d*. Drawing.]

A.D. 1853, May 2.—N° 1069.

WOOD, Joseph Thomas.—(*Provisional protection only.*)—"Improvements in the manufacture of boxes, such as have been hitherto made of pasteboard." This invention consists in the substitution of gelatine for pastebord in the manufacture of envelope cases, card cases, and such boxes as are used by shopkeepers as "depositories for fancy articles." The gelatine is made very transparent, so that the articles in the boxes "shall be visible to the eye without being exposed to dust or dirt and atmospheric influence." The cases and boxes may be made ornamental "by stamping or punching out certain parts thereof, or by printing or stamping devices thereon."

[Printed, 4*d*. No Drawings.]

A.D. 1853, May 3.—N° 1080.

ARNOLD, Frederick.—"Improvements in binding or covering books." In books bound according to the patentee's method, the back carries at each side one flap of a hinge or hinges riveted or otherwise fastened to it; the other half is similarly secured, one to each cover, and the two parts are united by a bolt "fitted "with a plain milled or an ornamental head, and "tapped at the "lower end for the purpose of screwing into the hinge" or into a nut. "Books constructed in this manner are found to open "and shut more readily and present a more level surface;" they also afford facility "for transferring the bindings or covers of old "and disused books" to new volumes. The half on the cover may be made "to supply the usual ornamental mounting," or it may be fastened on the inside of the cover; and "the whole "hinge may be concealed by a slip of paper, plain or ornamented, "which may be gummed or otherwise secured over it." Again the hinge bolt "may be rendered permanent or immovably "attached to the hinge," and the invention "admits of many "other modifications."

[Printed, 8*d*. Drawing.]

A.D. 1853, May 7.—Nº 1125.

NICHOL, JAMES.—"Improvements in bookbinding," namely, in performing the two operations "known by the names of "rounding and backing" by machinery. The rounding machine consists of a table which "may be adjusted to the thickness of "the book by excentrics," and a concave bar at one end of the table, turning on a centre and made to operate on the back of the book by means of leverage. The book is held firmly on the table, and the concave surface, being brought to bear against the back of the book, effects the rounding "along one side of it." The book is then turned over and the operation is repeated on the other side. "Two bars may be used for this process, by which both sides may "be rounded at one time."

The backing machine is composed of, 1, a frame; 2, a shaft near the bottom of the frame having a crank keyed or otherwise fixed on it; 3, a rod connected to the crank and having two links pin-jointed to it; 4, two bent slotted arms, jointed, one to each link, and "crossing each other and turning on a common "centre;" 5, bars for operating on the back of the book, which are placed in the slots when the arms are "brought into suitable "position;" 6, cheeks between which the book is held, and which are "opened and closed by means of a right and left handed "screw at each end, put in motion by a hand wheel;" and 7, *two levers, one to* move the shaft, the other one of the arms.

The book being fixed between the cheeks, the arms are "raised "or brought together;" the bars are "brought down upon the "back of the book by means of the lever" which moves the arm; and the upper ends of the arms are depressed again, "thereby working the bars over the back of the book through "arcs from the centre of the same, and causing the backing joint "or groove to be formed."

A third machine is employed for the purpose "of forming the "backs of paper books;" it is composed of a frame; a concave socket; a bar with a convex surface fitting the socket and worked by a lever; and a concave bar similar to the one in the rounding "machine and worked by means of a lever as in the ordinary "copying machine." The book "is placed over the socket; the "bar is then brought down upon it so as to give it the required "form; the sides of the back beyond the socket are then turned "over on the upper surface of the bar" by the concave bar. The invention is "applicable to other processes in bookbinding, such "as case-making, finishing, &c."

[Printed, 6*d*. Drawing.]

A.D. 1853, June 17.—N° 1480.

HOGG, JAMES, junior.—"Improvements in the application and "combination of glass, porcelain, stoneware, earthenware, terra-"cotta, composition in plaster of the kind called scagliola and "majolica ware." The patentee applies his invention to the manufacture of many articles and to "parts of the boards of "books," namely, to "portions of the sides." The book "is to "be bound first of all in the usual manner, being covered with "cloth or other material," the backing "projecting more than "ordinary," and the end papers "not being at first pasted down." A rim of metal is made "to fit the side of the book," such that it "can be rivetted through the pasteboard of the side," and that it will admit of a plate or slab being placed beneath it. The plate or slab is of any of the materials mentioned in the title, and when it "has been laid into the cell formed for it by the raised "rim, the latter may then be made fast to the board by its "rivets," and the end papers may be pasted down. The rim may be made to fit exactly the thickness of the plate, or its edge may be turned down over it. Differently colored and ornamented pieces of paper or cloth may be laid underneath the plate for "an " additional variety of effect."

[Printed, 6*d*. No Drawings.]

A.D. 1853, June 24.—N° 1542. (* *)

JOHNSON, John Henry.—(*A communication from Monsieur Pfeiffer.*)—(*Provisional protection only.*)—" Improvements in ma- " chinery or apparatus for cutting paper and similar materials." " Having cut successively the two plain edges of the books, the " third or front edge remains to be cut, which must be done by a " circular cut, to give the required grooved or channeled appear- " ance to the front of the book when closed. For this purpose a " circular or curved knife is brought into action. The form of this " knife is somewhat that of a crescent, the circumference of its " outer edge corresponding exactly with the curve of the cut to be " given to the leaves. This knife has a rotatory movement given to " it by a segmental rack actuated by a pinion. The rack forms a " portion of the knife holder, and the knife is fitted in line with its " centre of oscillation or vibration ; thus a partial rotatory move- " ment is transmitted to the knife, which rocks or vibrates always " in the axial line of the centre of the curve forming the blade. " The leaves to be grooved are held between suitable pressing sur- " faces, and the knife brought up to them, the frame carrying " this portion of the cutting mechanism being moved on suitable " guide rails. During the curvilinear cut of the knife a rectilinear " movement is also given to it in the direction of its axis by means " of a traversing screw, producing a species of helical cut by the " two combined movements of the cutter."

[Printed, 4*d*. No Drawings.]

A.D. 1853, August 3.—N° 1813.

NEWTON, William Edward. — (*A communication.*) — (*Provisional protection only.*)—" Improved machinery for cutting card- " board, paper, and other similar materials." The machine is intended to "trim the edges of books, paper, and cardboard," and " to obviate the necessity of a readjustment" of the book, &c. " after every cutting operation." The holder is mounted on a centre, " so that it may be turned round and made to assume " either of the three positions required;" and in combination with it is " an adjustable frame, so arranged that the holder may

" be secured thereon in such a manner that the book or paper " may be turned round and moved to and from the knife with " facility." The table which supports the holder is " so arranged " as to be gradually raised to convey the edges of the paper to " the knife." The improvement may be applied " to any machines " in which reciprocating or other knives are employed," as it " in " no way interferes with the knife or the operation thereof."

[Printed, *4d.* No Drawings.]

A.D. 1853, August 10.—N° 1861. (* *)

PRINCE, Alexander.—(*A communication.*)—(*Provisional protection only.*)—" A press applicable to the several purposes of " lithography, autography, typography, chromo-lithography, or " printing in colors, copper-plate printing, cylinder printing, " embossing, and copying letters."

The elements of this press consist of a wooden " rake " with a " rake holder " in a box on cylindrical springs. Beneath this rake is a carriage with a leather to bear the friction given for the impression attached to one end of it. This carriage receives the stone, type, or original to be copied. It is supported by uprights and driven by a cylinder beneath it, which is worked by a star-wheel. It is guided by " rules " and " rails," the latter sliding against the interior face of the former, which are kept parallel by cross bars. The sheet is laid on by hand. The rake descends upon the leather for the impression by the action of an excentric lever. On removing the pressure, the cylindrical springs return the rake and disengage the carriage, " which may then be brought " forwards or backwards to remove the stone or register."

For chromo-lithography, a peculiar piece of mechanism is introduced for the purpose of holding the paper in its proper position on the stone.

For typography the cylinder is removed. The form is placed in the carriage and a tympan and frisket substituted for the leather. The impression is given by the descent of a plate (connected with the rake holder) by means of a lever.

For copper-plate printing two cylinders are used, placed one above the other. The axis of the top cylinder works in boxes, which can be raised or lowered by screws, in order to diminish or increase the pressure. " The printing is effected after the usual " method." " In the above state, this press may be used as a cylin- " der for pressing paper and cards. While the press is mounted

" for lithography, copper-plate printing, and typography, it may " be also used for letter copying. In the first case, put a leather " over the register and roll it under the cylinder. In the second " case, pass the letter between the cylinders. And, in the third " case, the copy is obtained by the flat pressure of the plate," above described.

[Printed, 8*d*. Drawings.]

A.D. 1853, August 18.—N° 1939. (* *)

HUGHES, THOMAS.—(*Provisional protection only.*)—" An im- " provement or improvements applicable to writing slates, pocket " and memorandum books, and other such like articles." It consists "in applying a spring clip or holder to slates, memoran- " dum and pocket books, &c., for the purpose of holding the " pencil to be used therewith." "In applying it to slates," " attach a strip of sheet steel or other elastic substance by one of " its ends to the frame of the slate, and its other end, bent into " a semi-cylindrical form, presses against the said frame." "When " the pencil is not in use it is inserted under the loose end of the " spring, and is held between it and the frame of the slate." Or, " make the spring fastening of a strip of india-rubber attached " by its two ends to the frame of the slate." It is " also appli- " cable to memorandum and pocket books for the purpose of " preventing the loss of the pencils used therewith."

[Printed, 4*d*. No Drawings.]

A.D. 1853, November 22.—N° 2709.

BAIN, ALEXANDER.—(*Provisional protection only.*)—Improvements in cases for holding cards. In addition to the usual opening for placing cards in a case an opening is made at the bottom, the breadth of the opening being regulated by " the thickness of the " card." In one side of the case is fitted " a pointed presser free " to be moved up and down in a slot in the side," and held at the top of the slot by a piece of vulcanized caoutchouc or other spring. In the opposite side is fixed a spring " which keeps the " cards close against the opposite side of the case ready to be " operated upon by the presser." When it is desired to take a card from the case, the presser is pushed down the slot, " when " the point catches hold of one card and protrudes part of it " ready to be entirely withdrawn by hand." The presser is drawn back to its position by its spring, while the spring opposite "will

" have brought up another card ready to be acted upon." The opening for the exit of the card may be made " in the side or other " convenient part of the case."

[Printed 4*d*. No Drawings.]

A.D. 1853, December 15.—N° 2914.

MORRIS, Charles John. — (*Provisional protecton only.*) — " Improvements in bookbinding;" namely in backing the book and forming the lips simultaneously by machinery. This operation is performed by means of " two bent levers of the second " order;" the face of the shorter and bent end of each " is formed " curved to suit the curvature of the back of the book;" the fulcra of the levers are " two V-shaped pieces of steel, which are " adjustable in the framing of the machine, so as to suit books of " different sizes," and the levers " are retained in their proper " position by springs and are operated upon by the rotation of a " cam or eccentric fixed upon a transverse shaft." The book (or as many books of similar size as the machine will contain) " is " held in proper position by a table and cover, which are adjustable by means of a right and left-handed screw or screws, for " the purpose of presenting the middle of the back of the book " opposite to the point of contact of the bent ends of the levers, " so as to cause each lever to press equally upon the back for " forming the lips."

[Printed, 4*d*. No Drawings.]

A.D. 1853, December 23.—N° 2986. (* *)

PFEIFFER, Jean Daniel.—" Improvements in machinery or " apparatus for cutting paper and similar materials." These improvements relate to machinery for cutting the concave and flat edges of books and registers, and consist, first, in the construction of a " circular knife," and arrangements for cutting concave edges. " The knife is of the form of a portion of a cylinder of equal " radius to that of the concavity of the edge required. The " knife holder is fixed to a toothed sector, having the same centre " of rotation as the blade. The sector is driven by a pinion " keyed to an axle " suitably actuated. A to-and-fro motion may be imparted to the knife, by means of a " screw receiving " a progressive motion," or by an " endless helical groove " on a cylindrical block, in which is engaged the end of a stationary screw or stud serving to guide it. The grooved block is fixed to the sector, on which is adjusted the knife holder. "The circular " motion may be superseded by giving to the blade a lengthened " triangular shape " as shown in the drawings.

Secondly, "in the arrangements for cutting the flat edges of " books, &c." The books, &c. being properly placed and held by clamps, the knife is caused to descend with a perpendicular and lateral movement, received from the combined action of a screw, which imparts an oblique movement to the knife, and two radius rods, one end of each being connected to the knife holder and the other ends to the framing.

[Printed, 1*s.* 2*d.* Drawings.]

A.D. 1853, December 24.—N° 2994.

COOPER, Thomas.—(*Provisional protection only.*) —" An im- " provement applicable to the binding of ledgers and other books," so that they may present when opened a flat surface. To effect this object " and at the same time to relieve the stitches at the back " of the book from the strain that they would otherwise be liable " to when the book was wide open " the cover back is made of metal or other rigid substance, and between it and the book back is inserted a steel spring. One end of the spring is secured to the cover back; the other end "is bent to the form of a bow" and is left loose "so that it may have free play." By the pressure of this spring on the back of the book "the leaves are thrown up " flat when the book is opened and sustained in that position; " but on closing the book the spring will yield to the pressure " put on it and lie flat between the cover back and the back of " the book."

[Printed, 4*d.* No Drawings.]

1854.

A.D. 1854, January 3.—N° 13. (* *)

WILLSON, Edward John.—(*Provisional protection only.*)— " An improved method of making portfolios, music books, brief " cases, and pocket books." It consists as follows:—" After the " covers are prepared, several elastic bands, composed of silk, " *cotton,* and india-rubber, are inserted about an inch from the

" outer edge on the outside of the cover, by which means the " back is made to expand or compress; and as regards the inside, " a flap made of bookbinders' cloth or leather is so fixed as to " form a back when drawn out or expanded, and thus assists in " preventing its contents from falling out. The opening is also " secured by elastic bands or silk ties."

[Printed, 4*d.* No Drawings.]

A.D. 1854, February 6.—N° 287. (* *)

MEERE, Auguste Louis Nicolas Comte Vander.—(*A communication.*)—"The manufacture of artificial whalebone, or a " substance capable of being employed as a substitute for whale-" bone and tortoise-shell." This invention relates chiefly to improvements in treating horn to render "it flexible and elastic " like ordinary whalebone." This may be effected by steeping for several days the horn in water containing five per cent. of "glycerine," or in water alone which has "become putrid and " ammoniacal," and afterwards in a "bath composed of three " quarts of nitric acid of commerce, and two quarts of pyro-" ligneous acid of commerce, and twelve pounds and a half of " tannin, and five pounds of bitartrate of potash and five pounds " of sulphate of zinc, dissolved and mixed with twenty-five " gallons of water."

" Vinegar may be substituted for the pyroligneous acid, and " white wine for the bitartrate of potash. Or, in lieu of this bath, " the horn may be immersed for several days in a hot or cold " bath containing animal matter, such as a solution of gelatine or " glue, or the water in which tripe has been boiled, &c." Horn so treated is rendered pliable and ductile and may by pressure and heat be formed into various useful shapes. "It may be stained " black by means of a stain prepared by boiling together in water " logwood, fustic, and sulphate of iron, and adding eight or ten " drops of nitric acid to twenty gallons of the liquid;" "and " various other stains may be employed, as in staining ordinary " horn and ivory and other substances. It may be stained like " ordinary horn to resemble tortoiseshell." "The horn is dipped " into the stain for a few seconds or longer, and is then dried and " polished, if required."

It is stated that horn so treated is well adapted (among other things) for the binding of books.

[Printed, 4*d.* No Drawings.]

A.D. 1854, March 21.—N° 666.

PFEIFFER, Jean Daniel.—(*Provisional protection only.*)—“ Improvements in bookbinding.” This invention consists in “ a combination of apparatus for holding and pressing books “ when undergoing various processes of bookbinding.” The construction is as follows :—two end frames are “ suitably combined ” for carrying an axis on which is a moveable frame “ composed of “ two end pieces and two longitudinal bars.” On the inner surfaces of the bars are grooves to receive and support the ends of sliding plates, between which the books are placed. The bars are parallel to each other, “ and at such a distance apart as to admit “ of receiving the largest books between them which it is intended “ the machine shall receive.” The upper surface of the framing “ is so formed as to support the moveable frame when it is in a “ horizontal position ” on either side of the machine. The moveable frame has at each end “ a semicircular toothed rack fixed to “ its axis,” and motion is given to the racks by means of a crank handle on a shaft carrying two pinions; ratchets and catches retain the frame in any position. At each end of the frame is a “ moveable end,” which is capable of being set up by a screw and of pressing the books that are between the plates, and under the frame “ is a table running from end to end of the machine, which “ is capable of adjustment in its height by a screw and guides at “ each end,” the screws being put in motion “ by means of a “ shaft and bevilled toothed wheels.” On this table are blocks “ with convex top surfaces,” and the books being placed with their front surfaces on the blocks “ assume a concave form in front and “ a convex form at back ;” the screws are then caused to set up the moveable ends and to press the books between the plates. “ The workman can then readily operate on the backs of the “ books ;” and when he wants “ to operate on the ends and “ fronts,” the frame “ can be moved and retained in any desired “ position.”

[Printed, 4*d*. No Drawings.]

A.D. 1854, March 25.—N° 702.

SMITH, Thomas John, and SMITH, Joseph.—“ Improve-“ ments in the manufacture or construction of pocket books, “ portfolios, and similar articles.” The object of this invention is “ the obtainment of an expanding and collapsing action of the

“ pockets ” of the above articles, and the patentees accomplish this by means of “ elastic connecting pieces attached to the ends “ of the pockets.” They describe a pocket book “ such as is used “ by merchants and commercial men ;” it consists of “ a central “ memorandum book,” “ three expanding divisions or compart“ments ” on the right side, and a “ triple pocket ” on the left side. Elastic material “ in the form of a flat band or tape woven “ with interposed caoutchouc threads ” is employed ; one end of a band is fastened on each side “ to the outside cover by inter“position between the folds or layers thereof ;” the band is in each case “ passed through perforations in the angular folds of “ the pockets until it reaches the outside diaphragm, to which its “ remaining end is attached in a similar manner.” The expansion may be obtained by “ manufacturing the gussets themselves “ of an elastic material,” or in various other ways ; and “ the “ principle is capable of application to cases and boxes of various “ descriptions.” The pocket book “ is fitted with an external “ elastic band attached to the back.”

[Printed, 6*d*. Drawing.]

A.D. 1854, April 1.—N° 744.

FORBES, Duncan.—(*Provisional protection only.*)—“ Improve“ments in facilitating a reference to books.” A projecting index, “ shewing at a glance the different books or divisions of the con“tents ” of a volume, is inserted at suitable parts thereof, and “ may be fixed in any convenient manner ” to it ; and on the margin of the volume is formed “ an index to the contents of “ each leaf between each of such books or divisions.” The leaves between each book or division of the volume are “ to be cut on “ the margin, so as to display at the front of each division the “ contents of each leaf therein,” somewhat in the manner of “ an “ index of letters at the front part of an account book.”

[Printed, 4*d*. No Drawings.]

A.D. 1854, April 5.—N° 787.

GILLARD, William Rumsey.—(*Provisional protection only.*) —“ An improved method of coloring and ornamenting leather, “ vellum, book edges, paper, and other like substances employed “ in bookbinding.” The ornamentation or coloring is laid on “ through one or more stencil plates,” each separate colour requiring a separate plate. "By first sizing or otherwise preparing the paper or other materials," metallic and other powders as well as colors may be applied. Any kind of device or pattern may be cut in the plates.

[Printed, 4*d*. No Drawings.]

A.D. 1854, April 18.—N° 892.

ROWLEY, JOHN.—"Improvements in the manufacture of a "material as a substitute for leather." By means of this invention the patentee produces "a surface similar to that of leather, "such as is extensively used by bookbinders, and well known in "the trade as colored roans or skivers." He combines either by hand or machinery "colored pulp paper or other suitable colored "pulp material with a woven or felted fabric dyed of the same "colour," and he strengthens the combination by subjecting the two materials to pressure, "so that the pulpy matter may be forced "through the interstices" of the fabric. Sometimes he uses colored paper instead of colored pulp, and combines the two materials by "size or other suitable and elastic adhesive composition." After sufficient compression he covers the surface "with colored size of the same tint as that of the material." A cheaper material "with a surface of the same external appearance" may be made "by coating the surface of the dyed woven "fabric with size colour or colored pulpy material alone or a mixture of the two." The materials may afterwards be "embossed, "gilded, or otherwise ornamented."

[Printed, 4*d*. No Drawings.]

A.D. 1854, April 19.—N° 898.

PFEIFFER, JEAN DANIEL.—"Improvements in bookbinding." The reader will find a description of the machinery required for these improvements in Abridgment No. 666, dated March 21st, 1854, when the patentee obtained provisional protection for his invention. He now informs us that the sliding plates are "of a "slightly conical form;" that "a toothed concave roller" is rolled on the backs of the books after they have been shaped by the blocks; that after this operation the books "are to be more "strongly pressed by means of the screws, then the moveable "frame is to be caused to move on its axis and come on the "upper surface of the framing, when the books will have their

" backs placed downwards, when a source of heat can be applied " for drying;" and that the books are to be in a like position " for gilding." In the drawing are illustrations of the tools which he prefers to use " for scraping and polishing the backs " of the books after the operation before described." He adds that " it will be seen by figure 7 that the principle of slides " can be adapted equally with a hand press vertically placed " or otherwise."

[Printed, 8*d*. Drawing.]

A.D. 1854, May 6.—N° 1013.

ARCHDEACON, Edward John Montagu.—(*Provisional protection only.*)—" An improved book mark or index." A piece of leather or other substance is cut or stamped out (for the precise shape see woodcut in the specification) somewhat like a cross; the top and bottom portions are turned down or 'blocked-up' to give rigidity to the middle; " certain words, letters, or figures" are printed or otherwise marked on the middle portion; and the side or end pieces being coated with adhesive composition, " such as " gelatine and liquid glue," the index is then ready to be applied to the book, " that is to say, the page or leaf is inserted between " these end pieces, and the whole is firmly pressed together;" when dry, the index " cannot be easily removed without tearing " the page or leaf." This index is applicable to " any book, " diary, journal, ledger, or other similar work."

[Printed, 4*d*. Woodcut.]

A.D. 1854, May 8.—N° 1029. (* *)

GOODMAN, George Barry.—(*A communication.*)—" Improvements in apparatus for holding together letters, music, and " other loose sheets." The apparatus consists of 1. an outside back or holder, " made of very strong boards," the central portion being of wood covered with leather; 2. a portfolio for holding the papers, &c., and " forming a temporary back or covering to the same," and when full " a separate and complete book in itself;" and 3. the following mechanism:—A box of thin brass or other suitable metal is fastened to the wooden portion by pins, screws, or other means. Inside the box are two helical or other springs working on fixed slotted spindles, which serve as guides to the springs and to two curved lever arms; these move on fixed centres, their free ends pressing against screw pins which connect two sliding pieces with an angular sliding bar having a handle at each end; "and " in order to allow of the sliding of the screws to and fro with the " bar, the box is slotted at the top." On one side of the box is formed a projecting ledge through which are screwed two screws which pass through the back of the portfolio and enter a fixed bar. To the front of this bar are secured a number of prongs or wire points (having a transverse eye near the end of each), which pass through corresponding holes in the sliding bar. To insert papers, &c., into the portfolio, the sliding bar is drawn by the handles, until it is caught by a "spring-cranked catch" which takes into a slot in it. The papers, &c., are held vertically between the points of the prongs and the front of the bar. The catch is pressed with the thumb, the bar flies back, pushes the papers on to the prongs, and presses them against the portfolio. When the portfolio is full, it is removed by unscrewing the screws; the prong points are then pushed through the opposite cover of the portfolio, and a hollow bar is laid over them. This bar is perforated to admit the points, and a thin wire slide passing through it and the eyes of the prongs effectually secures the whole. This bar and slide are kept until wanted in "a slot or pocket in the outside " back."

[Printed, 8*d.* Drawing.]

A.D. 1854, May 23.—N° 1143. (* *)

ATLEE, THOMAS WILLIAM, and ATLEE, GEORGE JOBSON.— " Improvements in printed or other forms applicable for bankers' " cheques, orders for goods, wharfingers and carriers' receipts, " taxes and rates, collectors' receipts, and various other parochial, " commercial or private purposes, whether such forms be bound " up into books or not." This invention consists, "in perforating " [by suitable means] printed and other forms, such as are named " in the title, when such forms are required to be separated, for " the purpose of leaving or preserving a check or evidence of the " business matter to which such torn off forms may relate. Such " perforation may be in one or more straight, undulating, or zig- " zag lines, or in any pattern that will admit of being easily torn " asunder. We do not confine ourselves to the precise form in " which the perforations may be made, as they may be round, " diamond, square, or any other. And should it be further neces-

" sary as a prevention to imposition, such as in excursion, return, " or other railway tickets, such tickets may be perforated, so as to " readily indicate the peculiar character of their issue."

[Printed, 4*d*. No Drawings.]

A.D. 1854, June 19.—N° 1336.

RILEY, Samuel.—(*Provisional protection only.*)—" Improve- " ments in pocket books, bill cases, or other such depositories." Elastic springs or bands are applied to the interior of the above articles for the purpose of securing notes, cash, papers, &c., in the pockets thereof, and " blank forms " are " bound in loosely " for making any memoranda thereon. " The method of securing " such or similar articles is by passing the two ends of an elastic " band or spring either stitched or through eyelet holes, in the " front of the pocket, and fixing them to the back, thereby " causing the mouth of the pocket to spring or be held together " and effectually closing the aperture."

[Printed, 4*d*. No Drawings.]

A.D. 1854, June 22.—N° 1366. (* *)

STIDOLPH, William.—(*Provisional protection only.*)—" A " transferable book marker." " This invention consists of a " method or methods of constructing a book-marker, and of com- " bining the same with a paper-cutter. To construct my book- " marker, I take a narrow flat piece of metal, or any suitable " elastic material, such as horn, or the hardened vulcanized india- " rubber manufactured and patenteed by Charles Goodyear; I " bend this narrow slip of metal or elastic material double, so as " to form a spring, which is intended to clasp the cover, back, or " leaves of a book. At the bend of this spring I attach one or " more ribbons or strings, which is used as book-markers, between " the leaves, in the same manner as the string or ribbons usually " attached to the backs of prayer books or bibles."

[Printed, 4*d*. No Drawings.]

A.D. 1854, July 29.—N° 1678. (* *)

INGALL, George Henry.—(*Provisional protection only.*)— " Improvements in elastic bands for holding books and papers." These bands, which usually consist of flat rings of vulcanized india-rubber, are formed instead of " elastic webbing or other

" suitable elastic material with a coupling piece, by which the " band may be united at its full size, or the ends overlapped and " united to form a smaller band." "The union may be effected " by a flat metal hook and eyes attached to the webbing, or the " eyes may be worked and sewn to the band. The hook may " terminate the one end and a metal loop the other, through " which the hook passes; other methods of uniting may also be " adopted with like effect. Instead of making the band with " ends it may be annular, and provided with the means of over" lapping by hooking or otherwise."

[Printed, 4*d*. No Drawings.]

A.D. 1854, September 26.—N° 2071.

SINCLAIR, the Honorable JAMES (commonly called Lord BERRIEDALE.)—" Improvements in treating, cleansing, and orna" menting paper and other surfaces." This invention is applicable to " leather for book covers, cases," &c. Two distinct machines may be employed, one for applying coloring matter, the other for removing any superfluous colour and "heighten" ing the general effect of the colored figure." Or "the whole " operation may be effected in one machine," the principal parts of which are (1) an endless travelling apron, carrying a self-acting spring clip or clips and carried by a pair of rollers, (2) a vibrating colour hopper "composed of wire gauze or perfo" rated metal plate and filled with the requisite colour in the form of dust or powder, (3) a rotating brush, (4) a fixed brush, (5) a "range of finishing rollers," into which are inserted "radial " strips of vulcanized caoutchouc." The clip is kept closed by india-rubber bands or other springs, and it is opened by "lateral " projecting pins," which slide up "stationary inclines" fixed to the side standards of the machine. The hopper vibrates by the striking against its edge of a cam on the end of the shaft of the rotating brush. The different parts are connected by belts and pulleys.

"The fabric to be ornamented having been previously printed " with the intended pattern in adhesive matter," is taken hold of by the clip and slowly traversed along the apron as it passes beneath the hopper, which shakes on to it a certain amount of coloring matter; this is rubbed in by the rotating brush; part of the superfluous colour is taken off by the fixed brush, "beneath " which the fabric passes slowly during the operation," and the remainder is removed, and the ornamentation is completed by passing beneath the finishing rollers, which "are driven at a very "great speed."

[Printed, 1*s*. 4*d*. Drawings.]

A.D. 1854, November 9.—N° 2375.

FERRIER, DAVID.—"Improvements in facilitating a reference "to books." An index is made on the outside "by taking a "book, before gilding the edges, spreading the leaves a little "open, putting the lettering on the edges thereof, and then "gilding the leaves." By this means a view of the contents is readily obtained from the outside "without disfiguring the ordi"nary appearance of the book," as the index is invisible when the book is closed, but "comes into view when the edges of the "leaves are slightly spread." The patentee illustrates the invention by stating the method which he employs for indexing the bible, and "in order to make the exact situations of the respective "books the more evident," he marks their names "alternately in "blue and red."

[Printed 4*d*. No Drawings.]

A.D. 1854, November 10.—N° 2394. (* *)

RIMMEL, EUGENE.—(*A communication from Hippolyte Magen.*) "Improvements in combining matters to be employed in coating "fabrics and leather, and for other uses, in substitution of india"rubber." The directions and proportions "for the first layers "for common fabrics" are as follows:—Dissolve in boiling rain water or distilled water one pound of powdered alum, three ounces of sulphate of iron, and, by preference, one drachm of cyanuret of lead, and one quarter of a drachm of cyanuret of manganese. Add two pounds eight ounces of soap made of seal oil and potash. "The mixture is to be washed with rain or distilled water and "evaporated to the consistency of paste." Then add three pounds of linseed oil boiled until it becomes thick, two pounds of linseed oil slightly boiled, and nitric acid "one-sixtieth part of "the weight of the compound;" the thickened oil is added whilst it is boiling. "For the last layers and for superior fabrics," boil together two pounds of linseed oil, three drachms of tannate of lead, three drachms of chloride of manganese, and three drachms of powdered alum, until the composition becomes thick. When cold, add one-fiftieth part of its weight of nitric acid. For a "varnish for real and artificial leather," mix one part of the second mixture with three parts of turpentine or benzone, "into "which are previously dissolved or mixed the colors intended to "be used." For a "more solid preparation," melt together two parts by weight of the first mixture, one part of sulphur, and one part of tar, and "evaporate to the degree of solidity required." The compounds are applied to fabrics "by means of an upright "knife above a roller, on which the stuff passes tightly stretched." The number of layers varies according to the degree of finish desired. Each layer is to be dried in a stove and pumiced over before another is put on. The compounds are applied between two fabrics "in the same way as when using real india-rubber." This "artificial india-rubber," applied "on a strong linen, cotton, "or union cloth," forms an artificial leather, which is used for boots and shoes, saddlery, military accoutrements, book-binding, &c.

[Printed, 4*d*. No Drawings.]

A.D. 1854, November 30.—N° 2517. (* *)

QUIQUANDON, JEAN BAPTISTE ANDRÉ.—(*Provisional protection only.*)—"Certain improvements in manufacturing corks, "and in the mode of employing their residues or wastes;" a machine is described for making corks, which, instead of shavings, gives powder as a refuse. This dust or powder is to be mixed "with caoutchouc, gutta percha, resin, tar, boiled leather, papier "maché, kaolin, felspar, or other plastic composition capable of "being moulded, stamped, or carved," and manufactured into "plates, trays, rosettes, &c., or "furniture, buttons, candlesticks, "vases, tapestry, carpets, cloth, paper, book covers, pipes, whips, "and lashes, &c."

[Printed, 4*d*. No Drawings.]

A.D. 1854, December 9.—N° 2598.

KING, JAMES JOHN, and BRINDLEY, THOMAS.—"Improvements in cigar cases, card cases, and other similar cases." In external appearance the card case "is somewhat similar to an "ordinary card case." At the top is a slot through which a card may be projected, and at the bottom for the insertion of the cards is an opening closed by a plug and having a recess in it into which a little shoe descends. Within and occupying the breadth of one side is a sliding plate, "kept in position by strips "of wood and its thumb nib and slotted guard plate," and carrying at its lower extremity the shoe, which "must be very "small, being required to take hold of only one card at a time." On the opposite side is fixed a spring, "which exerts a constant "pressure on the cards to force them" towards the sliding plate; this spring, however, may be omitted. To remove a card the plate is to be pushed up by the thumb nib, "when the shoe will bring "up the card next and in contact with" the plate, and "project "it at the top." The "mouth-piece" of the slot "is a tolerably "stiff piece of leather, the rounded part of which is brought "sufficiently close to the side of the case that the card in rising "shall come in contact therewith," and exert "a sufficient amount "of friction to prevent the next card in succession being brought "up at the same time by the friction of contact with the card "lifted by the shoe." The operation of the cigar case is in many respects similar to that of the card case; but cigar cases are not included in the present series. Pocket cases for "books, spec-"tacles, and like articles" may be "thus similarly fitted with "sliding plates."

[Printed, 8*d*. Drawing.]

A.D. 1854, December 11.—N° 2610. (* *)

EBERT, Christian Henry Richard, and LEVISOHN, Lippmann Jacob.—"Improvements in the mode of rendering "certain cases or receptacles extensible." These are causing "the back ends" of "pocket books, pocket cases, blotting "books," "receptacles" for "stamps, small papers and docu-"ments," &c., "portfolios, and the like, and the top and "bottom of portemonnaies and lady's companions," and the backs of "desks, and of any compartments therein, to be formed "by an extensible band or connecting piece, composed wholly "or partly of india-rubber, gutta percha, or other suitable elastic "material."

[Printed, 10*d*. Drawing.]

A.D. 1854, December 15.—N° 2639.

ROWLEY, John. — (*Provisional protection only.*) — "Improve-"ments in machinery or apparatus for embossing natural and

" artificial leather, and woollen, cotton, paper, silk, and other " woven or felted fibrous materials; the said improvements being " more particularly adapted to those machines in which heat is " employed for effecting such said embossing." These machines are " such as are commonly used by bookbinders for ornamenting " the covers of books, portfolios, and other articles of a similar " character." Metal pressure rollers with plain surfaces are employed in lieu of the ordinary fly press. A sliding bed plate is connected to the framing; it moves upon projecting pieces fixed to the framing at about right angles to the axes of the rollers, and the upper and lower dies are placed upon it and move with it. The dies are connected in the following manner:—The upper die " is securely fixed to a thin plate of metal, which " is connected by a hinge to another plate to which the lower die " is affixed," and the bringing together and the separating of the dies is rendered self-acting " by attaching a weight to the hinged " plate which carries the upper embossing die."

"A peculiar feature of novelty in this invention" consists in arranging each pair of embossing dies side by side, " and in the " direction of the axis of motion of the pressure rollers," so that pressure can be exerted upon all simultaneously, and a number of separate patterns can be embossed at one time.

Heat is supplied from jets of gas disposed upon the sliding plate " so as to cause heat from the lighted gas to impinge against " the under side of the lower die holder."

Sometimes a revolving die holder is substituted for the sliding bed and die holder; it is arranged around a roller, and one end of the material is inserted between the upper and lower dies, thereby rendering " the feeding of the material to the several dies " in succession, and the removing it therefrom, self-acting and " continuous."

[Printed 4*d*. No Drawings.]

1855.

A.D. 1855, January 5.—N° 28. (* *)

BOWDEN, GEORGE.—" Improvements in the manufacture of " *united* adhesive book head-band and register ribbons."

This invention is thus defined:—

" Firstly, lengths of cord, braid, tape, vellum, leather, webbing,
" or any other kind of material being fixed to a spinning machine,
" silk, thread, cotton, or worsted of any color is then
" wound or spun round the cord, braid, tape, vellum, leather,
" webbing, or any other kind of material, to any pattern required.
" This forms the first portion of the book head-band when taken
" from the spinning machine."

" Secondly, calico, linen, or any other kind of material is then
" cut into requisite lengths of any required width or breadth."

" Thirdly, consists of silk or any other ribbons cut into sizes
" varying in lengths, and being fixed to the calico or any other
" kind of material (at convenient distances as required) by the
" fourth or finishing process."

" Fourthly, the finishing process.—A length of the first placed
" upon the surface of the top or bottom of the second, as before
" named, is then sewn together, the stitch forming a chain or
" bead, and is put on the edge of the surface of the first portion,
" and the same operation of sewing the first, second, and third
" portions together. By applying the patent sewing machines
" worked on the second and third portions forms a head-band by
" themselves for small books, patterns being formed by the colors
" of the silk on the wheels of the machine. Another head-band
" is formed by simply sewing webbing and braid or binding, by
" the machine or hand, of any size and color, to the second and
" third portions, as described."

" Lastly, that when the book head-band is quite complete, and
" before being cut into pieces the required lengths for the thickness
" of the books, to prevent it unravelling or coming away
" from the calico or any other kind of material, gum, paste, glue,
" or any other cementing body is laid between the thread or other
" material and the calico or other material, which makes it
" adhesive at the same time, so that by simply wetting the back
" of the book the head-band will adhere to it."

[Printed, 4*d*. No Drawings.]

A.D. 1855, January 27.—N° 210. (* *)

DAVIS, ELIAS. — (*Provisional protection only.*) — " Improvements
" in rendering paper waterproof." " I apply the waterproofing
" materials in thin sheets or solutions thereof in suitable

" spirits or oils, and, when requisite, subject the paper so prepared " to stoving, rolling, or pressing; solutions may be composed in " the proportions of about two parts india-rubber, one part gutta " percha, and two parts rectified spirits or other solvents."

"The water-proofing material may be applied to one or both " sides of single sheets of paper, or made to penetrate the substance of the paper, or two or more sheets so prepared made to " adhere by pressure."

"Papers prepared according to my process may be used for " roofing, ships' sheathing, wall papers, cartridges, bookbinding, " boxes, envelopes, and other useful purposes."

[Printed, 4*d*. No Drawings.]

A.D. 1855, February 7.—N° 296.

HARTFIELD, William.—"Making book covers in tortoise- " shell, inlaid or not with pearl or ivory, and for improvements " in machinery for embossing, carving, and inlaying book covers " with pearl and ivory, and for making metal joints, by which " such books may be widely opened; the said improvements to " be applicable to inlaying pianofortes." The book covers are made of tortoiseshell or of wood veneered with tortoiseshell; the shell is either plain or inlaid with pearl, ivory, or other substance in use for inlaying. The backs are of leather or velvet. The joints of the covers are of metal " drawn through a draw plate," " whereby," says the patentee, "I attain greater strength and " durability, and a joint admitting the two leaves opening back " one upon the other."

In stamping tortoiseshell so as to make it assume the required form, dies of iron are employed; they are shaped concave and convex and engraved with a suitable device; they are " worked " by a press in the ordinary manner."

[Printed, 4*d*. No Drawings.]

A.D. 1855, February 14.—N° 337.

NICHOL, James. — "Improvements in bookbinding." The Specification contains a description of four machines, one for covering books, one for gilding the edges, one for backing, and one for case making.

The machine for covering books is composed of 1, a frame, *carrying* a slotted table; 2, a pair of rollers (under the table)

" mounted in slotted bearings and held together by a spring and " capable of yielding to the pressure of the book when forced " between them;" 3, another pair of rollers below the former pair " and mounted in bearings which admit of the adjustment " and fixing of the rollers to a distance apart suited to the thickness of the book;" this pair also may be held together by a spring; and, 4, a treadle for setting the lower pair in motion. The cover being pasted or glued is laid on the table, the book is held by hand in the slot and pressed with the cover through the upper pair; it is then " laid hold of and carried forward " between the lower pair; this firmly presses the cover on to the sides, and the book " drops into a suitable receptacle."

The machine for gilding the edges consists principally of " two " upright jointed rods," connected to a cross rod which rests on two rollers suspended from the roof, and of a burnisher whose stem passes through a socket below the rods. The pressure on the burnisher can be increased by a weight on its stem or by springs; it is worked backwards and forwards by means of a cross handle (projecting from the uprights) " over the edge of a set of books " placed in a frame screwed up tightly," and lateral motion is obtained " by sliding the rod upon the rollers."

The machine for backing is an improvement on the one for which Letters Patent were granted to the patentee, bearing date May 7th, 1853 (see Abridgment No. 1125 of that year). The improvements are (1), " applying an antifriction roller to each of " the bars therein mentioned, which roller shall be made to " operate on the back of the book in place of the rubbing surface " of the bar;" (2), the use of a fixed roller or rollers instead of the bar or bars, " no yielding motion being applied to either the " roller or rollers or the cheeks within which the book is held;" and (3), a moveable bar or rest " on which the book is placed " when introduced between the backing boards." The whole machine is again described in the Specification.

For case making two distinct parts of a machine or two separate machines are employed. One part comprises (1), a table fixed on a frame and carrying four blocks, each armed with a pair of scissors, and (2), a frame turning on a pivot. The blocks are capable of adjustment " to suit the size of the cover;" the lower jaw of the scissors is fixed, whilst the upper is kept open by a small weight, and the frame (adjustable to different sizes of covers) has upright sides " which slope outwards from the bottom;"

The cover is pasted or glued and laid on the table, "the corners " being brought under the upper jaw" of the scissors; the sloping frame is then brought down upon the scissors, and the under part coming into contact with the upper jaw "causes the latter to " close upon the lower jaw and cut off the projecting corners." The boards are then placed in their proper positions "by being " merely placed within the frame," which "is then thrown back " and the case placed on another table to receive the finishing " operation." This operation requires a pair of rollers worked by a treadle, a pair of side rollers worked by another treadle, and a platen. Two rollers "are advanced so as to turn over the ends " of the cover; they are then withdrawn, and the sides of the cover are turned in by the advance of the other pair. The platen " is then brought down upon the case with sufficient force by " means of a wheel, screw, or lever, to make the cover adhere " firmly and smoothly to the board."

[Printed, 1*s*. 8*d*. Drawings.]

A.D. 1855, March 5.—N° 492. (* *)

WOOD, JAMES.—" Improvements in ornamenting woven fabrics " for bookbinders and others." These improvements consist in " applying 'Dutch metal' leaf to woven fabrics by printing with " adhesive composition on to the woven fabric, and then applying " the 'Dutch metal' leaf to the printed surface." "The impressions on the woven fabrics are produced in the ordinary " manner of surface printing, and the Dutch metal leaf is to be " applied thereto." "The woven fabrics may be thus printed " with Dutch metal leaf, before or after the embossing of such " fabrics in the usual manner, to imitate leather, and otherwise." The "printing fluid" employed consists of "varnish mixed and " boiled together with bees' wax, oil of lavender being added to " the mixture whilst still hot." When the object is to emboss and gild "book covers," "the following adhesive composition is " preferred:—1 lb. of Venice turpentine, ¼ lb. of yellow bees' wax, " 1 pint of printers' varnish, 1 pint of thick gold size, and 1 oz. " of best white wax. These substances are to be melted and " boiled together, and about one drachm of oil of lavender is to be " added to the mixture while it is hot." This composition when used is brought to the proper consistency by the addition of " gold size and varnish." The book covers are "embossed or " blind blocked" in the usual manner. The "composition" is then printed on by the block, and, finally, the Dutch metal leaf is laid on to the printed parts, and may be again pressed by the block, "putting a sheet of enamelled paper between the block and " the cover." "Sometimes, in place of operating on the book " cover by embossing, printing, and applying the metal leaf, as " above described, I simply, by means of the block, print the " composition on to the fabric, and then spread the metal leaf on " the printed impression, and wipe off the superfluous portions of " the leaf."

[Printed, 4*d*. No Drawings.]

A.D. 1855, March 19.—N° 608.

FAYERMAN, EDMUND REYNOLDS.—" Improvements in port- " folios for holding papers." One sort of portfolio consists of two sides, " a double leather back within which is fixed a flat zinc " plate of sufficient width to allow the sides to bend freely," and " a hard brass wire holding frame." Holes are made through the back at the corners and at the sides, and the frame is attached by fastening to each corner a cord which is carried through a corner hole in the back and thence through a " side hole to the " inside and tied to that side of the frame." Holding strings of any description are passed over the ends of the frame and are " free to be moved along the ends." Or each string "may be " single and tied to each end of the frame," or it may have a loop at one end, or it " may be in consecutive rounds with occasional " ties on one end of the frame." To insert a folded sheet of paper " the cords on one side are to be untied and loosened, the " frame turned upwards, and the leaves of the paper passed " through the frame at the back. The holding string, or one " portion of it, coming within the bend of the paper, the cords " are then to be drawn tight and fastened as before." To hold papers more firmly " a groove cut may be made at any part in " the bend of the papers, and a cord fixed to one side of the " frame, then carried through the groove between the papers and " the holding strings."

In another sort the portfolio is made in two separate parts, each consisting of a "bendable side" and " one entire metal " plate" bent at right angles. When the parts are put together, one plate slides over the other. In the upright portion of one plate are fixed tubes which extend across the breadth or horizontal portion, and pins to fit into the tubes are fixed correspondently in the other plate. The two parts are joined by cords which pass through holes in the horizontal portions. To insert a paper the pins are drawn out, the tubes are passed through holes in the paper, and the pins are replaced.

Modifications (several of which are mentioned) may be made in each sort of portfolio "without departing from the principles of " the invention."

[Printed, 6d. Drawing.]

A.D. 1855, March 19.—Nº 617. (* *)

TERRY, Alexander Robert.—" Improvements in apparatus " for copying letters and other documents." The object of this invention, to use the words of the patentee, " is to combine apparatus with the covers of a book (composed of suitable paper) " in such manner that the act of closing of the covers of a book " shall be the means of copying a letter or letters or documents " inserted between the leaves of such book. For this purpose at " the outside of each cover of a book I apply and fix a metal " frame; these two frames are, when the book is closed, connected " together by links which are attached to the frame of one cover " of the book, and they pass on to projections on the frame of the " other cover of the book, and in so passing on and connecting " the two frames together, the links cause the two frames to be " drawn tightly together, and the paper between the covers is " tightly compressed." The links are attached by pin joints, and their shape, as well as that of the book frames, may be varied without departing from the invention.

[Printed, 8d. Drawing.]

A.D. 1855, April 2.—Nº 731.

TAYLOR, John.—" An improvement in the manufacture of " covers for books." These covers, which may be called envelope " covers, are made in two parts, and each part, " suitable for " covering one half of a book," is cut, folded, and cemented, " so " far as three of the flaps are concerned, in a similar manner to " envelopes for letters." The fourth or open flap is cut square, and adhesive matter or cement is applied to the inside edge thereof of one half cover. In covering a book one of such envelopes " is " placed on each of the flaps of the cover," the open flap of each " is then folded and cemented one on the other, and thus is the "covering of the book completed." The adhesive matter may be applied "to the outside surface of the flap of either half of the "cover" instead of to the inside.

[Printed, 6d. Drawing.]

A.D. 1855, April 19.—N° 875. (* *)

JOHNSON, John Henry.—(*A communication.*)—"Improve-"ments in the manufacture or articles of hard india-rubber or "gutta percha, or compounds thereof, and in coating or covering "articles with the like materials."

This invention consists in the manufacture of book-covers, letters for signs, inkstands, penholders and pens, type, and stereotype, and buckets for water, acids, and other corrosive liquids, from india-rubber, gutta percha, or compounds thereof, "by first moulding them, while in a soft state, and then sub-"mitting them to a high degree of heat in steam-heaters or to "the action of a sulphur bath. The moulds may sometimes be "composed of plaster, but it is preferred to make them of porce-"lain, glass, metal, or gutta percha." During the process the article may be imbedded in magnesia, which causes it to come out of the mould quite black.

[Printed, 4d. No Drawings.]

A.D. 1855, May 12.—N° 1075.

LINSEY, John Henry.—(*Provisional protection only.*)—"Im-"provements in account books and other large books." The improvements are (1) "combining metal springs with a thin metal "back, to give the back elasticity and preserve its shape;" (2) "combining millboard with the metal back to prevent the edges "of the metal from cutting the leather or other material with "which the same is covered;" (3) longitudinal springs hinged to the cover to assist in throwing the book open; and (4) "covering the outside of the metal back with linen or other "suitable material, and securely fastening the same between the "millboards of which the cover is made."

[Printed, 4d. No Drawings.]

A.D. 1855, June 11.—N° 1332.

BARDO, Frederic Thomas Stoneham.—(*Provisional protection only.*)—"An improvement in cases for carrying tickets, cards,

" and other like articles." The case is made " with a transparent " back, front, or side, which shall not be liable to crack or be " broken." The transparent substance employed is horn; it is let in or otherwise fixed in a leather or other suitable frame, and consequently a card, " a railway season ticket," or the like, may be shown without taking it out of the case.

[Printed, 4*d*. No Drawings.]

A.D. 1855, June 26.—N° 1456. (* *)

LEISS, FREDERICK, and SCHNEIDER, CHARLES.—" Manu- " facturing mica letters, numerals, shop signs, figures, arms, " devices, & ornaments."

The above articles are produced in gold, silver, and various colors, transparent or opaque. The mica (glimmer) is slit into sheets of the required thickness, cut into forms or printed on and colored " according to the ornament or object required to be " produced, or by putting the forms under gelatine or mineral " substances, which causes a brilliant transparency and show of " colours, and gives the appearance of projection. The invention " is also applicable to slides of magic lanterns and similar objects " for the use of science and art, also transparent arms, devices, " emblems, chromatrop figures, and the like, for the purposes of " illumination, where perfect transparency is required." Also for book covers, screens, fans, with mirrors, " lamp glasses with " reflectors, passe partouts for portraits, and drawings in sketch " books, albums, &c., of which the sheets of mica form in the " meantime, frame and covering, &c.

[Printed, 4*d*. No Drawings.]

A.D. 1855, July 27.—N° 1713.

SMITH, ANDREW.—(*Provisional protection only.*)—" Improve- " ments in portable cases or holding receptacles for cigars, spec- " tacles, cards, cutlery, and other articles." The advantages claimed for this case are, " perfect security when the case is " closed," " facility of fully opening and closing," and " complete " exposure of the contained articles to a greater or less extent, as " may be desired." The case presents " the ordinary flat pocket- " case shape," and the greater portion of the length " is solid, " whilst the remainder is bi-valved, or formed with two separate " doors, hinged one on each side to the body." " The line of

" junction of the two hinged opening pieces is in the plane of the " case, being either quite in the centre of the case's thickness, or " more or less to one side," but the central junction is preferable. " The two hinged doors are held together when the case is closed " by an end-embracing catch of any convenient kind;" and, when the catch is thrown back, " one or both of the hinged doors " may be turned over to a right angle with the plane of the case." The same arrangement is applicable to cases for holding the various articles mentioned in the title, and to " many other receptacles for " small articles of different kinds."

[Printed, 4*d*. No Drawings.]

A.D. 1855, August 1.—N° 1746. (* *)

GLUKMAN, Leon.—(*Provisional protection only.*)—" An improved box for papers, letters, and other documents." The patentee briefly describes his invention as follows:—" This invention consists of a box of any suitable form for holding " letters and documents. To the lid of the box is fastened one " end of a spring, and the other end is attached to the body of " the box, thus rendering it self-closing. In the lid of the box " provision is made for holding labels or addresses."

[Printed, 4*d*. No Drawings.]

A.D. 1855, August 18.—N° 1876.

HENRY, Omer Jean.—(*Provisional protection only.*)—" Improvements in bookbinding." The invention consists in the preparation of cloth so as to give it the appearance of leather. The cloth is dressed with " one or several coats of colors reduced to " powder " and mixed with linseed oil, and is afterwards dried in a stove heated to 50° or 60°. The surface is polished with pumice stone, and a varnish is applied " composed of copal dissolved in " spirits of wine." The cloth may then be " gilt, stamped, and " embossed by submitting it to typographic presses and other " known machines."

[Printed, 4*d*. No Drawings.]

A.D. 1855, August 25.—N° 1929.

CARLESS, Eugene.—" Improvements in the manufacture of " artificial leather, suitable for bookbinding and other purposes." The base of this artificial leather is " felted cotton or other felted " material," which is to be deodorized (if it is combined with gutta percha or caoutchouc) "by passing it through a bath of "water containing one part of chloride of zinc to every ten gallons "of water, and immediately passing it in its wet state over a series "of heated cylinders until it is perfectly dry;" one pint of liquid ammonia or one pound of carbonate of ammonia may be added to every ten gallons of water. If a stronger material is required, the felt is united to paper or thin calico. The side which is not to be exposed is prepared "by applying thereto a stiffening mixture "composed of paste made from barley, rye, or wheaten flour, "separately or in combination with each other, or in combination "with animal size or glue in equal proportions," and the mixture may be tinted "with any shade of colour." The felt "is then "dried and rolled by suitable means." The surface side is coated with a similar composition tinted or not, and after another drying and rolling the surface is ready "to receive the coloring matter, "which is prepared by mixing any of the earths or pigments, or "animal, vegetable, mineral, metallic, or other colours, with size, "glue, or gelatine, in combination with barley flour paste and "a chemical solution of gum shellac or other of the gums or "gum resins." The solution is made by boiling together four parts of gum shellac, four parts of biborate of soda or any other alkaline compound, and forty parts of water in a closed vessel until the shellac is dissolved, adding "two parts of Turkey or "East India gum arabic previously dissolved in water," again boiling for five minutes and then straining. "Certain proportions of barley, rye, or wheaten flour paste, sugar or treacle, and "animal size, glue, gelatine, or albumen, either by themselves or "in combination," added to the above solution give "a softness, "pliability, smoothness of touch, &c." to the material. A finishing composition for the surface side is made "by boiling two parts "of wax or stearine in twenty parts of water to which has been "added two parts of potash or pearlash or any of the alkaline "salts," and adding to every three parts thereof two parts of barley, rye, or wheaten paste, and one of animal size, glue, gelatine, or albumen. Finally, "the material is dried and rolled, and, "if needful, hot or cold calendered."

[Printed, 4*d*. No Drawings.]

A.D. 1855, September 19.—N° 2117.

LINSEY, JOHN HENRY.—"Improvements in account books and "*other* large books." The improvements are (1) making the back "of one solid piece of steel so as to act as a spring" to give the back elasticity and preserve its shape, (2) combining millboards with the metal back "to prevent the metal from cutting "the leather or other material with which the back is covered," (3) "the use of longitudinal pieces of metal hinged to the covers" to assist in throwing the book open, and (4) "covering the outside "of the metal back with linen or other similar suitable material "and securely fastening the same between the millboards of "which the cover is made."

The "mode of manufacture" is as follows:—The paper is folded "in as many sections of about six sheets" as are necessary to make the book, and these are connected "by sewing them over "slips of vellum or parchment." The back is then glued and "the edges are cut and marbled or otherwise ornamented." Pieces of linen are glued between the several slips, and "another "and entire piece of linen" is glued "over the surface of the "back of the paper, leaving the linen about one and a half inch "wider than said back." Each cover consists of four thicknesses of millboard, the outermost (No. 4) being the thickest; the projecting linen is pasted between millboards 1 and 2; the levers or longitudinal springs are fixed between 2 and 3; and other projecting linen (mentioned below) between 3 and 4. The thicknesses are secured together, the sides are pasted down, and the book is ready for finishing. Each lever is a thin piece of steel of nearly the same length as the book and of breadth sufficient "to "embrace from about six to eight" of the sections; a piece of vellum or parchment pasted or glued to linen is riveted to the steel, the edge of the vellum being turned over the edge of the steel to prevent injury to the book back. To make the back a piece of millboard is bent to the desired shape of the back; a piece of linen (wider than the back) is pasted or glued to the inner surface of the millboard; and both are riveted to a piece of steel shaped to the same curvature as the millboard.

[Printed, 8*d*. Drawing.]

A.D. 1855, October 5.—N° 2232.

LEPAGE, FRANÇOIS CHARLES.—"A new composition or new "compositions of materials which may be employed as a substitute for wood, leather, bone, metal, and other hard or plastic "substances, and the method of manufacturing the same." The composition is a combination of sawdust and albumen; the former may be mixed "with vegetable, mineral, or metallic "powders," and the latter with any other glutinous or gelatinous substance, such as gelatine or size, or with albuminous salts."

The sawdust is soaked in albumen "slightly diluted and "liquefied by water or otherwise;" then it is well dried and subjected to pressure in an hydraulic press or by any suitable means. The substance is afterwards moulded by being forced into moulds, which are kept heated during the process "by a "steam jacket" or other means, and as soon as the moulding is completed, the moulds are suddenly cooled by immersing them into cold water or by pouring cold water over them.

The new composition may be applied to the manufacture of a variety of articles and amongst them to book covers.

[Printed, 6*d*. Drawing.]

A.D. 1855, November 8.—N° 2518.

GASTÉ, Louis.—(*Provisional protection only*.)—"Improvements "in binding account and other books." Two metal plates are employed in forming the back. The inner plate "is bent to the "desired form of the back," and it has in it at intervals near its edges slots, through which straps (by preference of woven fabric) pass "so that the two ends of each strap come within the curved "inner plate, and thus are they brought to proper positions to "be affixed to the covers of the books." The outer plate is wider than the inner one, "and is bent or turned up at the edges" so as to enclose it. Between the plates woven abric, leather, or other flexible material is placed, and the whole is riveted together; the material extends beyond the edges of the back "in such "manner as to enter between the parts composing the two "covers;" it is fixed to the covers by rivets, which also "fix a "thin strap or plate of steel or other elastic metal near the back "edge on the inner surface of each of the two covers." The straps "are fixed by glue or cement to the inner surfaces of the "covers and to the book."

[Printed, 4*d*. No Drawings.]

A.D. 1855, December 19.—N° 2875.

HARVEY, George.—"Improvements in portfolios." The portfolio is made with two sides hinged or connected at the back. One side is formed with three flaps, which, when the portfolio is closed, fold outside of the other side. Each flap has attached to it a strap, generally an elastic one, "and at the ends of the straps "are fixed plates, each with a latch or socket to enter a lock or "catch or loop, and to be fixed by bolts or catches in the lock, "or they may be held by simple catches without a lock." The plates are provided also with catches, in order that when the portfolio is open the flaps "may fold back and be retained "externally of the cover or side to which they are attached." Fixed on the other side is a lock "having a rotating bolt with "catches;" the bolt "is held in the locked and unlocked positions "by a spring catch or otherwise, and the complexity of the lock "may be increased by wards and tumblers;" but "other forms of "locks or catches may be used." The side which carries the lock has a strut hinged to it and provided with a band and elastic cord, so that when the portfolio is shut the strut "will be retained "secure to the side." The lock may be fixed on the strut.

[Printed, 6*d*. Drawing.]

1856.

A.D. 1856, January 18.—N° 136.

SCHLOSS, Joseph.—"A piston bolt, or certain improvements "in fastening travelling bags, portemonnaies, cigar cases, writing "desks, drawers, doors, and similar objects where locks, bolts, "or clasps are employed." This invention may be used "either "for mere fastening or bolting purposes or in combination with "a double-action lock." For the former purpose a cylinder of any suitable metal or substance is employed varying in length from one to three inches and in diameter from one-eighth to one inch or more. It contains a piston "which works in it at about "half way of the length of the cylinder against a spiral spring "fixed on the other end to a knob similar to that of the piston." To the lower side of the piston is secured a pin which "runs in "a small opening in the female part of the clasp," and opposite to the pin on the male part is a hook, "which by a slight pressure "is forced to catch that pin, whereby the closing is effected."

For the latter purpose "the mechanism, although based on the "same principle, is somewhat more complicated." A plate with two hooks moves inside the box of the lock, and is worked upon by the pin of the piston. A pin on the plate is caught by one side of a projection on the tumbler when unlocked and by the other side when locked; the tumbler "is kept firmly down" by a spring. "The mere bolting is effected" by introducing the hasps into corresponding openings in the box and catching them in the hooks, and as both hooks and hasps are rounded off, a slight pressure only is required. The hooks are disengaged by pressing the piston "from right to left, which imparts a similar motion to "the plate." The piston returns to its former position through the action of the tumbler spring and an inclined plane which carries the plate pin back. The process of locking and unlocking is explained.

One modification is described which consists in placing the lock above the bolt:—The upper side of the piston is formed with a projecting stop, and the piston "is cut smaller in this part for a "certain distance to admit a small piece of metal" made "with "two projections," on which the key acts, and also a projection which forces up a spring in passing it. The process of locking and unlocking this also is explained.

One end of the cylinder may be formed to constitute "a puzzle "lock:"—The knob is moveable and has an internal projection corresponding to one on the piston; by turning the knob its projection is brought downwards and meets the projection on the piston, "by which the opening is prevented." In this case the piston "must be cylindrical;" in other cases "it may be of any "convenient form."

[Printed, 6*d*. Drawing.]

A.D. 1856, January 24.—N° 193. (* *)

PETTIT, George Brooks, and SMITH, Henry Fly.—"Im-"provements in gas heating apparatus."

This "invention relates to certain combinations of apparatus "for obtaining heat from gas mixed with atmospheric air before "ignition," and "consists in inserting into or adding to the top "of a pipe (open at bottom for the admission of air through "perforated or other apertures, and to a supply of gas which is "conducted through a tube the mouth of which rises above the "apertures for the admission of air) various forms of burners, to "suit the particular heating purposes to which the apparatus may "be required to be applied. Also in fitting two or more gas and "*air pipes, into* or upon one gas supply main."

The drawings attached to this Specification exhibit upwards of one hundred and fifty modifications of burners, one of which is “ an apparatus especially for bookbinders.”

[Printed, 1*s.* 4*d.* Drawings.]

A.D. 1856, March 18.—N° 646. (* *)

MAW, Arthur.—(*Provisional protection not allowed.*)—“ Improved means of ornamenting the surfaces of woven, knitted, or felted fabrics, such as cloths, stuffs, ribbons, and other fabrics; or of parchment, vellum, leather, or other animal tissues, and rendering such fabrics or tissues applicable to various purposes.”

The invention consists in the employment of “ certain processes closely allied to the process of photography,” whereby “ the surfaces of these materials may be rendered sensitive to light, so that having obtained a negative picture on glass or paper, or some other transparent or translucent material, a positive impression or image may be transferred to the prepared surface of the fabric or tissue. By these means any variety of design or pattern may be transferred to these materials, but the particular nature of the design or pattern must depend, not only upon the taste of the operator, but also for the purpose for which the ornamented materials are to be employed.”

It is said that the invention may be applied to the ornamentation of books “ both externally and internally.”

[Printed, 4*d.* No Drawings.]

A.D. 1856, March 31.—N° 779.

NEWTON, Alfred Vincent.—(*A communication.*)—“ Improved machinery for folding paper.” The folding is in part effected by a stationary knife; the sheet is “ laid on a table or fly-board, in order to be introduced to the folding apparatus;” it is “ seized on its edge by fingers attached to a reciprocating carriage, and withdrawn from the fly-board and carried by the fingers under the folding nippers,” which open and close at the proper times “ by mechanism commonly employed in printing presses to effect the same operation.” The fly-board “ has register pins, which are operated in the manner adopted in printing presses.” “ Near the end of the carriage is a folding edge or knife, the edge of which rises slightly above its level.”

and working in connection with it is a folding nipper, whose jaws "are opened by pressing over the folding edge," and closed by the natural spring of the metal of which they are made. When the knife is brought by the movement of the carriage immediately under the nipper, "the carriage stops, and the middle margin of "the sheet is over the edge of the knife." The nipper is now depressed, and the paper is pressed over the knife edge to make the fold. When the nipper moves away, "it carries the folded "sheet with it into a position to be folded a second time by a "second knife and nipper," which at the same time opens the first nipper and releases the sheet. When the second fold is completed, the second nipper "carries the sheet back to be subjected to a third folding by a third nipper and knife;" and when all the folds are finished, the sheet "is dropped from the "last nipper on to the delivery table."

For octavo volumes, the halves of the sheet must be folded in opposite directions, "the machine being so arranged that one "half is folded *up* and the other *down*." As the sheet is taken along by the fingers, "it is cut in halves by a rolling cutter upon "a straight edge or bed," and while one half is carried through and folded, the other "goes through a similar course, except "that it passes under a knife attached to the fixed block, and "is folded by a nipper which rises up from below."

"The machine being made by preference double-acting, there "are two knives attached to the reciprocating carriage, which "knives come alternately under the same nipper;" and when the sheet passes under the knife, "one knife fixed to the framework "of the machine will answer to cut the sheets on both sides of "the machine."

The patentee describes his machine fully, and claims the following novelties in it:—1. Folding the paper by means of a stationary knife and nippers.

2. "Relieving the sheet from the nipper:"—A projecting piece on the second nipper strikes a pin, which is attached to one jaw of the first and passes through an opening in the other jaw, so as to open the jaws and relieve the sheet. The first "is cut out in "the centre of the folding edges to the extent of the width of the "bite or grasp of the nipper upon the sheet," so as to allow the second "to act upon the whole extent of the sheet."

3. An "adjustable check and the mode of releasing its hold by "the advance of the nippers:"—"In order to keep the nipper

" from rising beyond the required position, and to determine or " gauge this position," a check piece, adjustable on a graduated stem, and a stop piece on the nipper are employed. A check pin " slides towards and from the nipper," being grooved into a piece which is fixed to the stem. A spring keeps the check piece against the nipper. In the act of folding, the second nipper pushes the check piece from above the stop, and allows the first to be carried up until the stop strikes the fixed piece, when the first " is entirely clear from the sheet."

4. A " rotating trip dog for raising and depressing the fingers :" —On the frame near the edge of the fly-board is a trip dog which turns on a pivot. The dog is slotted, and a " wrist pin " enters the slot as the carriage advances; the fingers " rise up until the " dog is vertical, and then descend, as the dog moves on." When the finger bar moves away from the fly-board, the pin carries the dog back to its place.

5. Attaching the knives to the reciprocating carriage.

6. " Operating the reciprocating carriage:"—It is moved to and fro by a crank upon the main driving shaft (enclosed within a hollow shaft) through the medium of a connecting rod, lever, and connecting link. As the carriage must be stopped while the sheet is being folded, the stop is caused by a slot in the connecting rod, " in which plays the pin connecting the rod with the lever," so that the crank " moves through nearly a quarter revolution " while the slot is passing over the pin, and before it acts upon " the lever."

7. " Cutting rollers hung on a bar vibrated and checked :"— " To cut the sheets on both sides of the machine " there are two cutting rollers at the extremities of a rocking bar, which is pivoted to the frame. One end of the bar " is in contact with a " bifurcated spring catch," and " slips over (above and below) a " projection in the centre of this catch." The extremities of the bed on which the cut is made are provided with inclined planes; as the rollers " ascend these inclined planes, they are alternately " raised and depressed, and the end of the rocking bar is forced to " pass over the projection." A spiral spring holds the bar in either position with force enough to keep the cutters to their work.

8. The arrangement of T levers, with " double concentric rock " shafts for operating the nippers by one cam :"—The various motions given to all the nippers are derived from a single cam

operating upon the lower ends of two T levers. The arms of one lever are furnished with sector gears, which take into arms connected with rock shafts. These shafts "are inclosed in and pass through" hollow concentric rock shafts. The arms of the other lever are furnished with similar gears, which take into arms connected with the hollow rock shafts.

[Printed, 1*s*. Drawings.]

A.D. 1856, April 10.—N° 863.

NEWTON, Alfred Vincent.—(*A communication.*)—(*Provisional protection only.*)—"Improvements in the means of attaching together or securing sheets and pieces of paper or manuscript documents," so that they may be readily detached or added to or replaced by other sheets. The sheets, &c. are punched with holes or notches to receive a band, cord, or other like attachment, and the inventor prefers to use "cords, strips, or bands of "vulcanized india-rubber." Bands "are sprung into their place "and made to embrace the portion of paper lying between the "notches" in the edges of the paper. Cords carry at their ends pins or stops "shaped so as to pass readily endways through the "punched holes, but fitted to the cord, so that when it contracts "the pins will be lengthways across the holes." A strip of sheet india-rubber, threaded through the holes of the paper, "and "secured by drawing one end of the strip through a slit in the "other end," forms an efficient fastening.

The invention also relates to the use of studs for temporarily attaching sheets of punched paper together; the space between the stud heads not occupied by the paper is filled by the insertion of an india-rubber washer.

For the purpose of filing documents in a manner "that will "facilitate their portability, and permit of the easy removal" of any particular one, the inventor attaches to the opposite ends of a cord a pin and socket which will fit tightly the one within the other.

[Printed. 4*d.* No Drawings.]

A.D. 1856, May 26.—N° 1251.

GAGET, Andre Adolphe.—"Improvements in bookbinding." This mode of binding, called by the patentee "moveable binding," is applicable to "fly leaves, sheets of paper, pieces of music,

" pamphlets, and other articles." It consists, first, "in the " employment of hooks for connecting or holding together at top " and bottom the sheets of paper or pamphlets;" secondly, " in " the application at top and bottom of a holdfast or connecting " piece in an inclined position over all the hooks;" and thirdly, " in the use of a back by preference of wood, in one or several " pieces united together according to circumstances; this back is " furnished with grooves or slots to receive the pressure hooks " and connecting pieces." Each pair of hooks "supports a " sheet which is perfectly adjusted on the back," and all the hooks " are fixed and firmly held by the uniting pieces."

Another arrangement consists " of a series of separate plates," united at slots " to form a single cover, and having the appearance " of a book, the thickness of the back of which can be thus " diminished or increased at pleasure;" each plate carries one or several separate sheets supported by hooks, " and made firm by " the same number of uniting pieces as there are plates;" and the plates " are united to each other by hooks on a single plate." The hooks are set on small bars which traverse grooves in the plate.

One illustration in the drawing exhibits " some hooks which " serve to keep the sheets apart;" a guard is made for the sheet; a hook is passed through the sheet and guard; the hook is then " drawn back," and " thus becomes a solid stop." The extremities of the hook are closed, " without cramping the " sheet," when required, " so as to form a spring." Again, " the " leaves may be held by covering hooks," which " are bent at " suitable angles at their extremities," and holders " receive the " extremities of these hooks."

Another illustration shows " the groove of the plates which " form an edge above the other plates."

[Printed, 6*d*. Drawing.]

A.D. 1856, June 21.—N° 1460. (* *)

VENTRÉ, Emile.—(*Provisional protection only.*)—" An im- " proved carton or box for keeping papers or other articles." The box is constructed in such manner " as to admit of its being " opened and reclosed, and the contents withdrawn and replaced, " without displacing it or any article that may be resting upon " it." The face of the box is made to open or shut " by means

" of a button placed upon a spring and running in a slot;" pressure of the finger upon this button " causes the face of the " box to fall, displaying its contents;" and the box is refastened " by raising this face or flap to its original position." As these boxes (which may be of any shape or material) " may be piled the " one upon the other," they will obviate " the necessity of the " expensive shelves and compartments now used in most offices."

[Printed, 4*d.* No Drawings.]

A.D. 1856, July 12.—N° 1652.

ROWLEY, John. — (*Provisional protection only.*)—" Improve" ments in the manufacture of a material as a substitute for " leather." This invention relates to improvements upon the one for which letters patent were granted to the inventor, dated April 18th, 1854, No. 892. The improvements consist " of a " mode of uniting together the materials " of which the substitute is made, and " in the use of certain materials not heretofore " employed for effecting the uniting of a felted or woven fabric " with paper." The process now adopted is as follows:—If a woven fabric be used, it is first " tapped " by laying on one or both sides thereof " a coating of China clay mixed with other " animal or vegetable size or albumen." When the composition is well rubbed into the interstices, the fabric is dried and rolled. The side which is to receive the paper is then coated with " caoutchouc or gutta percha dissolved in naphtha, or caoutchou" cine, or other suitable solvent, to which has been added a " certain proportion of gum thus or gum sandarach." The paper, properly dried and prepared, is laid on the still moist composition, and the whole " is passed between pressure rollers, then over " a series of heated cylinders, and finally between another pair of " pressure rollers," when it is ready " to receive the subsequent " operations for converting it into a substitute for leather " according to the manner set forth in the before-named letters patent.

[Printed, 4*d.* No Drawings.]

A.D. 1856, July 16.—N° 1673.

MORGAN, Richard.—" A pocket case for containing address " cards, stamps, and other similar articles." The case (of leather or other substance) is made with a hinged lid, " somewhat like a

" jewel case," and of a depth to hold a sufficient number of cards in the bottom. At one end of the bottom is a cross piece, under which one end of the cards is slipped, and at the opposite end " is formed a notch to enable the finger nail to be inserted " below " for the removal of a card. The inside of the lid contains a looking-glass behind a hinged lining; stamps are held by elastic bands attached to the lining; and there may be added a tablet and a pencil; or the latter " can be used as the fastening." Other conveniences may be added; and the looking-glass may be placed in the bottom of the case.

[Printed, 6*d*. Drawing.]

A.D. 1856, July 18.—N° 1690.

LEUCHARS, William.—" Improvements in locks for travelling " bags," applicable also to " portfolios, despatch boxes, and other " similar receptacles." This invention consists " in adapting to " the cases of Bramah and Chubb locks certain novel mechanism " in connection with the bolt of the lock," so that the said bolt may be " either used by hand or operated upon by the key of the " lock, that is to say, the mouth of the bag may be closed without " locking if necessary."

The lock is composed of (1) back and front plates, (2) a plate for connecting the lock to the material of which the bag is made, (3) a hasp fixed to the bag in the usual way, (4) a plate " affixed " to the upper part of one side of the metal frame of the bag," and pierced with a hole through which a part of the main bolt passes; the top of this part carries a knob, by which the bolt " can be drawn back by hand," a spring " keeping it always " forced forward;" (5) " the barrel of an ordinary Bramah lock " operated upon by the key of the lock in a circular direction," and carrying a pin which lifts up and forces down (6) an auxiliary bolt for locking and unlocking the main bolt.

In the drawings may be seen a lock " adapted to a Chubb's " lock;" also a modification of the above described lock, in which the piece employed for drawing back the main bolt by hand, instead of being vertical, extends from the side of the bolt. The piece passes through a hole in the front plate, and it is notched to allow the bolt " to be drawn back sufficiently far to " disengage it from the hasp."

[Printed, 8*d*. Drawings.]

A.D. 1856, August 7.—N° 1862.

GREEN, William.—(*Provisional protection only.*)—" Improve-" ments in the manufacture or production of fabrics and surfaces " in imitation of and as substitutes for leather for bookbinding " and other uses, and in machinery or apparatus for effecting the " same." " An exact fac-simile in reverse of a piece of hard-" grained morocco or other grained leather " is produced upon a roller by the electrotype process or by other means; the roller is worked " in an ordinary embossing machine in contact with a " paper or similar bowl," and by means thereof an imitation of leather is produced " upon continuous lengths of woven, felted, or " other fabrics." Ornamental patterns also may be deposited on rollers or segments of rollers " for the purpose of embossing book " covers and other fancy articles upon continuous lengths of " artificial leather." The fabrics (when woven) are calendered, rolled, pressed, burnished, and coated " with a glutinous and " gelatinous matter combined with gums, resins, and an alkaline " compound," or they are coated with a gelatinous matter and then treated " with acetate of alumina or solutions of tannin." If " a dyed woven fabric is employed, the said matters are to be " as transparent as possible;" but if the fabric is plain, the necessary colours are to be combined with them. A fabric well suited for the purpose may be made by cementing " cotton wadding " either alone or to a thin fabric," or " a thin fabric between " slivers of cotton or other fibre," by means of " a mixture of " glue or its equivalent with glycerine, filtered molasses, and (in " some cases) oil of tan and metallic sulphates;" coloring matters may be added to the adhesive matters, and the fabrics are " to be rendered insoluble or nearly so " by the coating above described. " In some cases a dry powder capable of being rendered " adhesive by heat or otherwise is employed in lieu of the liquid " matters." The fabrics thus prepared are passed between one or more sets of rollers, " connected with which are doctors and " troughs " for scraping off and receiving the surplus adhesive matter, and appliances for cleaning and heating them. " A lint " or soft fibrous surface " is obtained when required " by means " of sharp or rough surfaces made to travel at greater speed " than the fabric or in an opposite direction thereto;" and any inequalities are removed from the surface of the coated fabric by *suitably* arranged " rough or grinding surfaces." The fabrics may be further improved "by a coating of lacker or of glycerine "combined with alcohol and acetic acid, or other thin finishing "composition or varnish, either before or after being grained." Sometimes "different coloured materials are to be employed on "either side of the fabric." If a substitute for the thicker kinds of morocco and other leather is to be produced, "a fustian or "similar fabric" is used.

[Printed, 4*d.* No Drawings.]

A.D. 1856, September 2.—N° 2036. (* *)

BATE, John.—(*Provisional protection only.*)—"Improvements "in folios, clips, or files for holding letters, invoices, and other "documents." The manner in which the patentee proposes to carry out his invention is "by attaching a series of metal plates, "say 20, to a back piece, either of metal or leather, similar to a "book back, each plate acting as a guard or loose fly of an "ordinary album. Each of these plates projects slightly in "advance of the former one in a line from the back piece, and to "every one is connected a leaf of pasteboard in such manner as "to be capable of being folded back at its point of junction with "the metal guard. A small tongue of metal is left on each of "the guards, and is turned down at right angles, and on this is "painted or otherwise affixed the letter of the alphabet to which "that section of the folio belongs, so that upon a reference to "the side of the folio, a person will be enabled to open it at once "at the particular spot in which he will find the document he "requires. The metal guards before alluded to act each of them "as a separate clip, a close contact being maintained by gussets "of vulcanized india-rubber, or any other suitable spring, "attached to the sides of the complete folio."

[Printed, 4*d.* No Drawings.]

A.D. 1856, November 13.—N° 2672. (* *)

JOHNSON, John Henry. — (*A communication from Cyrus Chambers.*)—(*Provisional protection only.*)—"Improvements in "machinery or apparatus for cutting and folding paper," "The "sheet to be folded is laid upon a table, and is so adjusted thereon "that the holes made by the register pins of the printing press "shall coincide with corresponding adjustable registers or pins, "situated between the first of a series of pairs of folding rollers."

" A pressing plate or blade, having a slightly concave edge, and " fitted with small projecting points, now descends by the action " of a lever and cam; and immediately the points have come in " contact with the sheet, the adjustable register pins herein-before " referred to are made to descend beneath the rollers," and the blade inserts the sheet in a creased form between the revolving folding rollers. The sheet so folded is then cut at the folded edge by means of a pair of shears. The cut sheets are again depressed by a second pressing plate or blade between rollers, whereby the paper is folded crossways, and so on to the third pair of folding rollers. The presser plate may be provided with two " sliding plates to " carry diagonal points," just long enough to penetrate only one thickness of paper, by which means the patentee effects the depression of one cut sheet at a time, the bottom one going first through the rollers.

[Printed, 4*d*. No Drawings.]

1857.

A.D. 1857, January 7.—N° 62. (* *)

HILL, Henry Charles.—" Improvements in screw and lifting " jacks, and in machines for lifting, pressing, and lowering."

The invention (which is stated to be suitable for " stationers', " printers', bookbinders', and embossers' presses ") consists in the use of one or more sets of a combination of levers known as " lazy tongs." Motion is given to these levers by screw, rack and pinion, lever, steam, or any other power.

[Printed, 1*s*. 4*d*. Drawings.]

A.D. 1857, February 6.—N° 339.

GREEN, William.—" Improvements in manufacturing or pro- " ducing substitutes for leather for boots, shoes, and other uses " and in machinery or apparatus for effecting the same." The part of this invention which belongs to the present series consists in producing a " leather-like surface " on book covers, pocket-book cases, and similar articles. If millboard is employed for the *cover,* " the leather-like surface may be applied, if so desired,

" direct to the surface of the millboard, a fabric being employed " for the back only, or in the case of pocket book covers for the " joints only." Each side is composed of two boards " of half " the substance required for the finished " side, the outer one " being softer than the other." The canvas or other material which is to form the back, " having been doubled over at each end " to the length of the intended cover, is cut into strips a little " wider than the back." The boards are glued or pasted, and a portion of each strip having been inserted between each pair, " they are pressed, and when dry are coloured and coated with " paste and glair, or paste and glue, or other suitable matters." A grain of morocco or other leather is produced upon the cover " by means of electrotype plates or otherwise," either before or after the application of the composition; or "an imitation of " embossed roan " may be substituted for the grain. The cover is now " in a fit state to be finished or blocked, as desired."

Sometimes the millboard is covered entirely with " unbleached " or unembossed cloth," and the leather-like surface is produced after the same is made up.

Sometimes sheet iron is used instead of millboard; it is cut into pieces a little larger than the intended cover; the outer corners are cut off; the edges " are bent over so as to give greater " rigidity," and the pieces " are then lined with coarse paper and " made up into cases or covers of the desired width as before " described."

Sometimes covers require a first coating of " caoutchouc and " gutta percha," or " other waterproofing matters."

The colour may be " applied with the finishing paste " or " as " a dye."

[Printed, 2*s*. Drawings.]

A.D. 1857, February 17.—N° 459. (* *)

GOODMAN, JOHN.—(*A communication.*)—" Improvements in " apparatus for holding together letters, music, and other loose " sheets." The apparatus is composed of a portfolio with a wooden or other back, a series of knives or pins, and a sliding bar. To the inside back is nailed or otherwise secured a fixed bar to which the knives or pins are fastened. Near the ends of the fixed bar are riveted guide rods along which passes the sliding bar perforated with holes corresponding with the rods and knives. The edges of the sliding bar "are turned inwards to "afford a broader surface" for pressing against india-rubber springs, steel springs, or other like arrangements for preventing the bar from slipping. "When sufficient documents have been "placed on they are permanently fixed by driving nails or screws "into the wooden back through holes made in the bar for that "purpose."

[Printed, 6*d*. Drawing.]

A.D. 1857, February 24.—Nº 543.

JOHNSON, JOHN HENRY.—(*A communication from Hypolite Marie.*)—"Improvements in fastenings for dress and other pur- "poses." This invention is "more particularly applicable to "pocket books, purses, cigar cases, travelling bags, and other "similar articles." It is described as applied to a memorandum book :— a hooked plate is secured to the flap of the book either by rivets or by an elastic or non-elastic band; and the hook "takes into a corresponding holding plate" which is not riveted to the cover, but is fastened by "two small claws or tongue pieces "being passed through the material" and turned down on the inside. The novelty claimed for the hooked plate is "that it is "quite flat on the surface, and has its extreme edge turned under "so as to form a hook." A small button may be fixed on the plate to aid in pushing the hook in or out of the holder, or a recess may be made in the plate for the same purpose. The upper portion of the holder "is inclined," so that the hook "slides "freely up over it until it catches in the recess" therein. In some cases it will be found convenient to place a number of holders at different distances from the hooked plate.

[Printed, 6*d*. Drawing.]

A.D. 1857, March 3.—Nº 620.

LEUCHARS, WILLIAM.—"Improvements in locks for travelling "bags, portfolios, despatch boxes, and such like depositories." This invention is an improvement upon the one for which Letters Patent were granted to Wm. Leuchars, dated July 18th, 1856, No. 1690; it "consists in connecting the bolt of the lock either "directly or indirectly with the nozzle thereof in which the key- "hole is made, thereby dispensing with the piece or knob "*described* and represented in the Specification of the aforesaid

" former patent," and "rendering the pulling back of the bolt " comparatively a secret operation."

The lock is of the following construction:—The nozzle is held in position between the lock plates by aid of a small flange formed on it for the purpose, and on the flange is a projecting piece having a pin fixed in it. In the front plate is an opening in which the projecting piece moves. The pin takes into a notch in the lock bolt, and the tumbler is operated upon by the pin of the revolving part of the lock. In "the locking movement" a screw in the bolt comes against the top of the tumbler, and is arrested thereby, so that the bolt cannot then be drawn back by hand.

" By the above mode of combining the nozzle of the lock with " the other parts thereof, the bolt may be drawn back by simply " turning said nozzle partly round" by the finger and thumb.

[Printed, 6*d*. Drawing.]

A.D. 1857, March 14.—N° 726.

COWPER, CHARLES.—(*A communication from Abraham Micoud.*) —(*Provisional protection only.*)—" Improvements in the manu- " facture of artificial leather, or a substitute for leather." A fabric of wool, cotton, or other fibrous material is prepared in the following manner, "so as to present a smooth surface" on the face, and "a soft surface" on the back:—A composition of rye or other flour, baked and mixed with Spanish white or whiting and linseed oil, with or without the addition of coloring matter, is spread upon the face. The surface is polished and covered with one or more coats of paint or coloring matter, mixed with boiled or drying oils and thinned with oil of turpentine, and it is again polished and varnished if required. The back is coated (once or oftener) with an adhesive composition made either of " boiled oil, in a syrupy state, mixed and ground with ceruse " or white lead and thinned with oil of turpentine," or of "a " solution of glue or gum, or gutta percha, or caoutchouc, or " other adhesive material;" the surface is then "covered with " powder or dust of wool, cotton, silk, leather, or other suitable " material;" it is allowed to dry, and the loose particles are then brushed off. Such a substance is adapted for bookbinding and " other purposes for which leather is employed."

[Printed, 4*d*. No Drawings.]

A.D. 1857, March 30.—Nº 877.

CHILDS, William, the younger.—" Improvements in the con-" struction of expansible boxes, cases, and receptacles." The body of the box or case is made in two parts, the upper capable of sliding over the lower, and several methods are described for effecting the sliding and fixing. 1. Two iron rods are screwed to the upper portion; these move in grooves or slots cut in the lower portion, and are fixed at any height by set screws. 2. This requires a metal collar inserted in and screwed to one side, and a plate through which a thumbscrew works; when the collar is sufficiently raised, it is kept in position by set screws. 3. Three elastic bands are secured to the upper and lower portions, and the set screws move in slots or grooves in the lower portion. 4. A rack is connected to one portion, and a pinion and pawl to the other; the rack is supported by a clip, and in a modification, called " a ratchet wheel motion," a spring keeps the rack in gear with the pinion. 5. Lazy tongs are attached to the upper and lower portions, and " at the points where the pieces cross " holes are bored through which a pin can be passed into a corresponding hole in a metal plate. Or the upper legs of the tongs may end in lugs which move to-and-fro in a slotted plate, and a screw passing through holes in the lugs expands or contracts the tongs. 6. Two cross bars may be used instead of tongs, and the lower end of one or both may be pawl-shaped and take into the teeth of a rack; or holes in the bars, a pin, and a drilled plate may be employed as in 5. 7. This is effected by means of a slotted plate and stud; " the box is retained by the stud being slipped into " one of the short slots which are formed at right angles to the " longest slot."

Purses or portemonnaies are provided " with telescopic sides " and divisions to suit the different coins." The sides are con-" nected by projecting pins, screws, rivets, dovetails, or corruga-" tions, which slide in corresponding grooves or slots."

[Printed, 10*d*. Drawing.]

A.D. 1857, April 15.—Nº 1071.

LEUILLET, Jean Baptiste.—(*Provisional protection only.*)—" Improvements in binding account and other books." The inventor applies whalebone to the backs; it " is placed in pieces " *near* the top and bottom of the book back or otherwise, and

" serves as a spring in opening or shutting the book." It " embraces the outside of the back, and is secured to the main part " of the back and to the boards." The back " consists principally of stiff millboard or wood or other stiff material, having " a division down the middle of the back, which permits the use " of the elasticity of the whalebone." An external flexible covering " hides the separation of the back." The angles or edges of the cover are made of or covered with gutta percha or india-rubber.

[Printed, 4*d*. No Drawings.]

A.D. 1857, May 8.—N° 1305.

SCHLESINGER, Joseph William.—(*A communication.*)—" Improvements in the backs and covers of account books and " other books." The book is bound in the usual way, and by any of the ordinary methods " up to the point of putting on the " covers and backs," and then, says the patentee, " in lieu of the " leather or any other back, I fix to the covers a back made of " copper or any other metal, which back is composed of a series " of hinges; by which means greater strength and durability are " obtained, and the book always presents a nearly level surface " when open."

[Printed, 4*d*. No Drawings.]

A.D. 1857, May 13.—N° 1345.

YELDHAM, Stephen.—" The better application and arrangement of indices to books of all kinds." The object of this invention is " to allow of an index being more readily and conveniently used, and more prominently brought within view " than at present." The leaves of the index " extend laterally " beyond the other leaves of the book, and the letters of reference, " being on their extended margins, and on the left-hand side " thereof, come in front and within view when the book is open " at any part beyond the index." It is preferred that the arrangement of the letters be altered to a certain extent; " the last letter " **Z** may be marked on the first leaf, **Y** on the second, and so on " to **A** on the last, and the longest strip of leaf cut away from " the last page, the next less long from the preceding and so on." The margins may be strengthened as is now usual; the first leaf of the index may be of stiffer material than the others, or have an extra stiffening, or be made to extend laterally beyond the others, or "have attached to it a band of cardboard, vellum, " cloth, or other suitable substance for the more convenient " handling or turning over of the pages." This projecting piece or guard " may conveniently extend slightly beyond the edges of " the binding, or a piece of tape or other suitable material may " be used with it or instead of it." The index leaves " come " nearly or wholly flush with the edges of the cover, or a binding " somewhat enlarged or broader than ordinary may be adopted."

[Printed, 8*d*. Drawings.]

A.D. 1857, July 7.—Nº 1877. (* *)

VON CANIG, Wilhelm Adolf—(*Provisional protection only.*) —" Compound or composition to be used as a substitute for gum, " paste, and other adhesive materials, and for finishing, sizing, or " stiffening fabrics and other articles to which the same is or may " be applicable." Amongst its uses " sizing threads for book- " binding " is mentioned. " In carrying my invention into effect, " I take the plant called carragheen or Irish moss, called also " fucus Irlandicus; and after sorting, I dry the same by heat and " reduce it to powder, and bleach it; I mix the powdered plant " with an equal quantity of starch or flour of rye, corn, acorns, " or chesnut, or the quantities may be varied according to the " purpose to which the mixture is to be applied."

[Printed, 4*d*. No Drawings.]

A.D. 1857, July 9.—Nº 1908.

DE CLERVILLE, John Julius Cléro.—(*A communication from Felix Abate.*)—" Improvements in the manufacture of oil " cloth and imitation leather." The patentee applies his invention to a variety of purposes, and amongst them he mentions bookbinding. He employs " a fabric of any design and material " previously dyed or printed " by any of the ordinary methods; thereon he makes "a transparent oily ground" by means of " three or four coatings of clarified linseed oil previously made " drying in the usual way by boiling it with metallic oxides." He then smooths the surface by rubbing it with pumicestone, and finally applies " a hard varnish such as asphalt varnish," to which he sometimes adds " a small quantity of Prussian blue for " *black* articles, and copal varnish for all colored articles." If the coating is "to remain entirely on the surface of the fabric," he prepares the fabric " by applying upon it before the oily coating " one or two coatings of mucilage."

He ornaments his oil cloth either by passing it between rollers, one of which has " engraved negatively on its surface " a design, or by embossing it, or by laying on it " a piece of the stuff " that he intends to imitate and passing both between rollers.

Sometimes he burns off " the surface wool or nap " of the fabric; he then calenders the fabric, applies upon it the oily coating, varnishes, and again calenders with hot rollers.

Sometimes he colours his oil cloth " by means of dry powders ;" these he spreads with a sieve upon the last coating before it is quite dry; and finishes off by calendering. Sometimes he uses " ground wool or silk " as coloring powder, and sometimes he prints upon his colored oilcloth " with dyeing or oil colours."

Another part of this invention " consists in making the oily " coating upon a surface different from that on which it is " required," and then transferring it. The coating is made upon a cloth stretched on a frame and previously covered " with a paste " coating." When the oily coating is dry, it is separated from the cloth by wetting the latter from underneath ; it is then laid on the surface on which it is to remain, and is fixed thereto " by keeping the article for a little while in a stove, and by rolling it " between moderately hot rollers."

[Printed, 4*d*. No Drawings.]

A.D. 1857, September 16.—N° 2396. (* *)

GODET, PROSPER BERNARD.—(*Provisional protection only.*)— " A new mode of illustrating literary productions."

The inventor states :—" The invention consists in illustrating " literary productions by means of photographic stereoscopic pictures taken from groups or scenes formed by living figures or " laymen, dressed, arranged, and combined with the required " accessories according to the narratives described in the book or " other literary production to be illustrated, and from which narratives or sceneries the said photographic stereoscopic pictures " may thus offer a perfect natural illustration, corresponding with " the ideas of the author of the book or other literary production; " thus for instance, I intend to give illustrations of the most

" conspicuous scenes of living or bygone authors, such as Shaks-
" peare, Dickens, Lamartine, historical or other works, and even
" of sacred books, such as the Holy Bible, prayer books, or any
" other suitable literary productions in general."

[Printed, 4d. No Drawings.]

A.D. 1857, November 24.—Nº 2937.

SCHLOSS, Joseph.—" A so-called Diana lock, or improved " fastening." This lock, " called Diana lock from the upper " part of its tumbler or trigger plate having the shape of a half- " moon or crescent," may be worked either by bolting or by bolting and locking. It is applicable to bags, pocket books, books, and similar articles, " and even immoveable objects," although it is " calculated chiefly for small portable articles." A pin or gudgeon is fixed on one side of the article to be secured, and the " main plate or box containing the various parts of the locks " on the other. These parts are (1), a trigger plate, " with curve " and cam " on its under side; its upper part projects, and its lower part enters the main plate, so that when required it can press down (2), a catch spring fixed at one end to the trigger plate, and formed with a suitable bend for the reception of the pin; (3), a bolt inside the main plate and below the keyhole; it rests " upon a small rod or otherwise;" it has in it two horizontal slots and " a suitable notch for the working of the key;" and on its upper part is a cam corresponding to the cam of the trigger plate; (4), a " cover of the main plate," carrying two pins which enter the slots of the bolt for " guiding the same and keeping it " in a straight line when worked upon by the key."

To bolt the lock press the two parts together: to unbolt it press down the catch spring by means of the trigger plate.

To lock when bolted turn the key " half-way," whereby the cam of the bolt " is brought under the cam of the trigger plate so " as to render the lowering of the said plate impossible."

The trigger plate and the bolt may have each two cams, one on each side of the keyhole.

[Printed, 6d. Drawing.]

1858.

A.D. 1858, January 6.—N° 20.

BROOMAN, Richard Archibald (*A communication from Laurent Cordier.*)—(*Provisional protection only.*)—" An improved " lock buckle," which may be used "as a padlock fastening for books and various other similar purposes." It is made "by " hinging to an ordinary lock bolt a tongue, the lock being " attached to the buckle frame, and the front of the frame having " a recess formed therein to receive the end of the tongue." Supposing that the lock buckle is to be used with a strap, " one " end of the strap is fixed to one end of the buckle frame; the free " end of the strap is pierced with holes" and introduced under the fore end of the frame; the tongue is inserted through one of the holes and brought opposite the recess, " when the bolt is shot " by the key," and the tongue is secured in the recess.

[Printed, 4*d.* No Drawings.]

A.D. 1858, January 19.—N° 92. (* *)

CAPON, Philip.—(*Provisional protection only.*)—" Improve- " ments in apparatus for binding together pamphlets, letters, and " other loose documents or sheets." India-rubber springs are placed within a hollow back or frame, in front of which prongs are disposed, and on the face of which a pressing bar slides. From this bar studs or pins project through and traverse in slots; on these studs the springs exert the required pressure to force the loose sheets on the prongs, and to bind them firmly the springs are distended over the studs and extended a sufficient length on each side for the purpose, the ends being attached to suitable pins fixed to the frame. " When the sliding bar is at its highest point " of elevation, it is retained by a spring catch or detent as usual " while introducing the sheets to be held." The springs may be otherwise disposed of to effect the same object. "The binding " apparatus is placed within a suitable cover to enclose all the " papers as usual."

[Printed 4*d.* No Drawings.]

A.D. 1858, January 21.—N° 108.

ROBINSON, John Joshua.—(*Provisional protection only.*)— " Improved apparatus for sorting and stamping letters, books, "newspapers, and other articles." The two processes of sorting and stamping are performed by mechanism.

"The sorting apparatus" consists of a table with a receptacle for the letters and other articles, two drums, a roller, and stirrers. The drums "for carrying bands at suitable intervals apart" are at the two ends of the machine; the one passes forward the letters, &c., the other holds them while being stamped; the former, "or "the toothed wheel on the axle of the stamping apparatus," sets in motion the roller, which carries a number of padded projecting pieces or stirrers "arranged in rows at equal distances round "the circumference thereof, and also at equal distances from each "other in the rows." The roller is mounted in bearings, "which "admit of its axle being raised or lowered to suit the varying "thicknesses of the articles intended to be passed under the "stirrers by means of the feeding bands in one stream;" the action of the stirrers prevents from passing, and throws back all articles "of greater thickness than the space between their ends "and the feeding bars under the same."

"The stamping apparatus" is arranged between the holding drum and the inking cylinder, so that the stamps "may be "successively brought into contact with the latter to receive the "charge of ink or colour," and then with the article to be stamped. "The action of the springs is to stamp articles of "different thicknesses at the same time, and the stamps may be "brought into contact with the articles and inking cylinder by "fixed eccentrics or otherwise." A second set of elastic bands pass over another roller and the holding drum; they hold the articles on the drum whilst being stamped, and then suddenly "diverge from the holding drum by passing round another roller," so that the articles may drop the instant after they are stamped.

The sorting may be performed by hand; the articles must then be "supplied to the holding drum (by means of the feeding bands) "by hand."

[Printed, 4*d*. No Drawings.]

A.D. 1858, March 19.—Nº 570.

MAY, JOHN MATTHEW.—(*A communication from Jacob Moench and Company.*)—"Improvements in fastenings for portmonnaies, "travelling bags, ladies' companions, cigar, writing, and instrument cases, fusee boxes, and other like cases or receptacles."

This fastening consists of a bolt actuated by a helical spring, and a tube for the reception of the bolt. The bolt and spring are contained in a tube which is fixed to one side of the frame, and the reception tube is fixed to the other side. The outer end of the bolt is provided with a knob or button, and the inner end (which projects from its tube) is bevelled. On pressing the two portions of the frame together, the bolt "will be pushed or " snapped back," the tubes will become in a line, "and the bolt " obeying the impulse of the spring will be shot into the tube" and "firmly secure the case." The opening is effected by drawing back the bolt out of the tube.

If the case is made with a flap, one part of the fastening is to be fixed to the flap, the other to the body of the case.

Modification: — The fastening may be arranged within the frame; the bolt has at its outer end a knob which protrudes from one end of one division of the frame, and at its inner end a stud which takes into a hook fixed to the other division; the spring is " in a recess." The action is on precisely the same principle as that above described.

The fastening "may be within or without the case, and com- " bined or not with a lock or other connection."

[Printed, 6*d*. Drawing.]

A.D. 1858, March 26.—N° 639.

BÉRARD, Pierre Hippolyte Gustave.—"Applying con- " centrated collodion to the effect of superseding caoutchouc in " waterproofing stuffs of all descriptions for manufacturing gar- " ments and wearing articles, and also for applying it over painted " surfaces instead of varnish." One part of this invention consists in "manufacturing impervious papers intended for various " purposes, namely, for bookbinding, jewelry case making," and " other similar applications." The "waterproofing concentrated collodion is composed of 425 parts of ether, 175 of azotic cotton, 375 of castor oil, and 25 of vegetable, animal, or mineral coloring material; but the proportions of castor oil or any other oily or fat substance may be modified according to the degree of suppleness or stiffness desired. The paper, "being wound upon a roller " placed before the spreading blade which can be regulated so as " to leave the required thickness of collodion," is carried away by an endless cloth to another winding roller placed at a distance from the first so as to give the collodion time to dry. The collodion "is taken from the vessel which contains it either with a bricklayer's trowel" or with a large and pliable blade and is laid before the spreading blade; "the first layer must be very thinly " spread," and each layer (from four to six are usually applied) is left to dry about twenty-four hours before spreading another. The paper is afterwards figured by rolling at a temperature of " from 104 to 122 degrees Fahrenheit."

[Printed, 4*d*. No Drawings.]

A.D. 1858, April 6.—N° 730. (* *)

CAMP, John.—(*Provisional protection only.*)—" An improved " construction of an expanding portfolio."

The portfolio is adapted for music and periodicals. " It is " formed of two parts, the back piece being attached to or forming part of one of the lids, and the other lid being provided " with a kind of pocket to receive the inner edge of the part " forming the back. By means of bands either elastic or non-" elastic, the back is connected with the pocket lid in such a " manner that the back may be slidden entirely into the pocket, " or drawn out as required to suit the thickness of the accumulating papers contained in the portfolio. In the back piece I " insert a series of threads . . . in parallel lines. These threads " are passed under the lining of the back piece, but at about the " middle of the back piece they come in front for a short space, " and their ends also hang out ready to be used for sewing the " papers. To secure a piece of music, for example, in place, I " thrust a crotchet needle through the middle of the crease and " draw in a loop of the thread; I then with the needle draw the " ends through the paper and pass them through the loop so that " they cross each other. I next draw the thread tight, and " tie the ends in a bow, thereby making the music fast to the " portfolio, but easy of removal when required."

[Printed, 4*d*. No Drawings.]

A.D. 1858, April 26.—N° 922. (* *)

LEE, Edwin Evetts.—" Certain improved modes of applying " vitrifiable materials for the ornamentation of metal buttons, " clasps, and other articles of dress, and which said improvements " are also applicable to the ornamenting of gilt jewellery, book

" clasps and mounts, also parts of lamp stands, chandeliers and " other such like articles made in dies, or moulded or formed in " any other way."

" This invention consists in ornamenting the description of " articles named in the title, by piercing them in the desired shape " or form, the edge of such piercing being afterwards slightly " enlarged on the face side, and by laying such article as may be " desired to be ornamented into a die in which it has been formed, " or a mould made for the purpose. I apply crystal or opaque " glass or other vitreous matters in a hot or semi-fluid state, " which, in pressing it from the back, it passes through the pierce " hole or holes in the design, and spreads itself on the other side " to the clear form of the die or mould in which it is laid."

" It is evident that such mode of ornament becomes very secure, " and cannot be again removed without pulverising the glass, or " melting or cutting away the metal."

[Printed, 10*d*. Drawing.]

A.D. 1858, April 27.—N° 926.

WHITE, EDMUND.—" Improvements in facilitating reference by " means of indexes." Two arrangements of an index are described, the one alphabetical, the other numerical. The novelty of the former " consists in the use of the margins at the top and " bottom of the book, together or separately in conjunction with " that at the front or fore edge thereof;" in the peculiar combinations of letters by which the results are obtained; and in the extent of such combinations. The alphabet (as used in the common index) is made the starting point; and to each letter is apportioned a separate index " of all the letters that can be used " in conjunction therewith and second thereto, and so on with " each letter in succession " so far " as convenience requires." In the majority of cases " the fourth letter of any name will bring the " eye to the exact page in which the name appears, and in reference " to those less numerous the second letter will answer the pur- " pose." The method of arranging the letters and of cutting the leaves and of finding the name Brown is explained.

The numerical index " is formed by cutting in or attaching to " the fore edge and either or both ends in conjunction with the " fore edge figures instead of letters." In a book containing 200 pages the figure 2 is cut in or attached to the twentieth page, 4 to the fortieth, 6 to the sixtieth, and 8 to the eightieth. The figure 1 printed or written in a different colour indicates the hundredth page, and at every twentieth page the figures 2, 4, 6, 8 stand for 120, 140, 160, 180. In a larger book 2 printed in the same colour as 1 would represent 200, and so on to any extent. " In order to " find the exact page required without the trouble of turning " over different leaves " the figures 2, 4, 6, 8, 10, 12, 14, 16, 18 are placed " at the top or bottom margin ;" and in books of reference, such as ledgers, which are numbered on both (left and right) pages alike, " the top of the pages should shew all the numbers " from 1 to 19."

[Printed, 4*d*. No Drawings.]

A.D. 1858, April 30.—N° 963.

DE BRUN, BENJAMIN EDOUARD GUYOT.—" Leather tissue and " other tissues rendered waterproof by a new process." The tissues, prepared by the following process, can be used instead of leather for various purposes, and amongst them for bookbinding. The first coating is composed of 500 parts of linseed oil, 15 parts of litharge in powder, 15 of brown umber in powder, and 2 of hydro-protoxide of manganese (previously subjected to a slow fire for one hour with some linseed oil), all mixed together and allowed to stand for some days to settle. If the tissue is of cotton, linen, or wool, the composition is to be mixed with " a nearly equal " portion of water " and beaten up with it until both are perfectly incorporated. When the coating is dry, a second is spread on, composed as before with the addition of lamp black to make " a " tolerable thick paste." If the tissue " is thin, and it is wanted " to dry quickly, the oil mixture must be boiled from two to three " hours, in order to reduce it to the desired thickness," and then must be added immediately 15 parts of salt of lead to each 1,000 parts of the oil mixture ; afterwards an addition of turpentine and lamp black forms the paste for the second coating. " The operation continues in all cases by fresh coats of the oil mixture not " boiled till the bottom of the tissue is well made, taking care to " pounce or polish the tissue to make it close and even." To blacken the tissue lamp black mixed with oil and turpentine is brushed over it ; to make it of any other colour, that colour is substituted for the lamp black ; and when it is coloured and dry, " it is pounced slightly and varnished with the following varnish :" 1000 parts of common oil boiled about twenty-four hours with

5 parts of brown umber, 5 of litharge, 5 of Prussian blue, and " turpentine when the oil thus composed is three parts cold." By passing the tissue when dry under an engraved cylinder it will have "the appearance of grained neat's leather or morocco."

[Printed, 4*d*. No Drawings.]

A.D. 1858, May 29.—N° 1218.

SCHLOSS, JOSEPH.—"A so-called book clasp or improved " fastening of books, being also applicable to pocket books, " ledgers, blotting cases, and similar articles, where locks, bolts, " or clasps are employed." A hinged plate carrying a hasp is secured to one cover of the book, and to the other is similarly secured a hinged plate carrying a plate slotted for the reception of the hasp and forming the top or main plate of a box. Within the box is a "cross-way trigger, working by means of two slots and " guide pins" and kept in position by two springs. The trigger extends outside of the box, and by pressing on it the hasp is released. The release may be effected by a key, in which case there is fixed in the box a square drill pin "having a catch fixed to " it, which partly revolves" and actuates the trigger. The fastening "can be made expansive by means of a slide which is fixed on " one side to the hinge plate, whilst the other side, having a slot " of any desirable length, works inside the main plate on a stud " or pin projecting on the inner surface of the guard plate. The " same end may be attained by inserting a metallic spring or other " suitable body between the main plate and that part of the object " on which it is to be fixed."

[Printed, 6*d*. Drawing.]

A.D. 1858, August 9.—N° 1813.

WILLIAMS, ALFRED HAMLYN.—(*Provisional protection only.*)— " Improvements in fastenings for portemonnaies, pocket books, and " other like articles." A perforated plate is fitted to the tongue or flap of the case (or apertures are made therein), and " a stud or " button, pressed upon by a spring and attached or held in the " side of the case," is caused "to enter one or other of the per- " forations in the plate and thus keep the case closed and fastened " until the pressure of the spring is removed." The position of the spring and stud and plate may be reversed.

[Printed, 4*d*. No Drawings.]

A.D. 1858, August 14.—N° 1862.

BETJEMANN, GEORGE, BETJEMANN, GEORGE WILLIAM, and BETJEMANN, JOHN.—(*Provisional protection only.*)—"An "improvement in book slides," or those articles "upon which "books are placed back upwards" on library and other tables. These articles are usually constructed so that the side supports can be drawn away from each other to afford space for more books than the articles would otherwise hold, but without means of returning the supports to their position, except by pushing them back by hand. The inventors make the supports self-returning by "fitting vulcanized caoutchouc or other springs to the slides." In some slides both supports are moveable, in others only one; the invention applies equally to both sorts.

[Printed, 4*d*. No Drawings.]

A.D. 1858, August 23.—N° 1919.

ROTTMANN, ALBERT.—(*A communication.*)—"Improvements in "fastenings for bags, portemonnaies, pocket books, and similar "articles." Two fastenings are described, one applicable to ladies' work bags, carpet bags, and purses with a metal or other frame, the other to pocket books, purses, &c. with a flap.

1. A spring of round or flat steel wire is bent "into a staple, or "loop, or V form;" its branches pass through two slots in one jaw of the frame and "terminate in two knobs" outside the jaw, whilst the angle or bend is kept in its place by a pin fixed in the jaw "or in a plate formed in one piece with or attached to it." An ornamental plate may be added. The other jaw is made with a recess (or with two recesses); the edges of the recess are bevelled, and a notch is cut at each end for the reception of a branch. In closing the frame it is sufficient to press the jaws together; the branches will "collapse sufficiently" to enter the recess, when they again expand and secure the jaws together. The fastening is released by pressing the knobs together. "A lock may be used in "conjunction with this fastening, and it may be made to move a "bolt or stud between the two branches."

2. A piece of metal or other rigid material with a recess in it (the edge of which may be bevelled) is secured to a side of the pocket book, &c., and to the under surface of the flap is fastened "a frame or plate or sheath of metal or other rigid material with a

" sliding bolt or hook which enters the recess and is drawn in by " a spring and drawn out by hand." The hook is bevelled; it is fastened to one end of a spring of vulcanized caoutchouc, "whose " other end is fixed in the bottom of a sheath" introduced between the inner and outer leather of the flap. When the hook is pressed into the recess, "the spring yields a little and again " contracts after the hook has entered, and thus draws it tight " into its place."

[Printed, 8*d*. Drawing.]

A.D. 1858, August 24.—N° 1922.

HINE, JOSEPH, and ABRAHAMS, ABRAHAM.—(*Provisional protection only.*)—" Improvements in book slides or holders." The slide consists " of a kind of tray or board furnished with " hinged ends, forming also hand holds ;" it is made in parts so as to extend to a greater or less length, according to the number of books to be carried. The inventors apply " elastic webbing to " the sliding part of the tray," so that there is a constant tendency " to contract and grip the books held." The webbing applied is " of about the breadth of the narrow part of the slide," and it closes " the blank space usually left open by extending it." Spiral or other suitable springs may be employed instead of elastic webbing.

[Printed, 4*d*. No Drawings.]

A.D. 1858, September 9.—N° 2041.

ROWLEY, JOHN.—" A new compound material applicable as a " substitute for leather and leather cloth in the manufacture of " various useful and ornamental articles." By means of this invention " a cheap and durable" material is produced, "which " is not liable to crack or break," and which can be used as covers of books, writing and blotting cases, and for other purposes. It consists in coating " any felted, woven, or textile " fabric " with " a peculiar kind of paint," for the invention of which Letters Patent were granted to Patrick Robertson, bearing date January 20th, 1858, No. 104. The fabric is first saturated " with a stiffening mixture composed of soap, bees'-wax, and " glue, in about equal proportions," and it is proposed to mix " iron liquor" therewith "for the purpose of deodorizing the " materials employed." The fabric thus prepared is left to dry,

" or it may be gently dried in a room heated for the purpose;" and when thoroughly dry "the prepared side thereof" is coated with one, two, or more layers of the patent paint, which is to be reduced to a "proper consistence" by mixing therewith about equal proportions of milk and size, and about three ounces of linseed oil to every pound of paint. When the coating is dry there is to be applied "a coating of gum, varnish, or the white of " eggs, diluted with milk or water to the required consistence;" or a "water varnish or other waterproofing liquid" may be used. " The fabric should be made of the same color as the paint " with which it is to be coated," so that "in the event of the " surface becoming either rubbed, broken, or cracked," the body of the fabric "will conceal such defect."

[Printed, 4*d*. No Drawings.]

A.D. 1858, September 28.—N° 2166.

LINSEY, John Henry.—(*Provisional protection only.*)—" Improvements in binding or covering books." Loose plates are attached to the covers of books, "for the purpose of securely " fixing the binding to books and allowing one binding to be " used for a series of books." A new book or set of leaves " may be firmly and readily fixed into the binding" by means of " plates of metal and screws or studs and other similar appliances, " which will clip or confine the flap of the hinge or joint attached " to the book, and which may be removed from one book to " another."

[Printed, 4*d*. No Drawings.]

A.D. 1858, November 30.—N° 2730.

SCHEIDEL, August Emil Clemens.—(*A communication from P. F. Gouda.*)—" Improvements in fastenings for belts, braces, " garters, books, portemonnaies, portfolios, pocket-books, invoice, " writing and cigar cases, reticules, bags, and other similar " articles or purposes." On one side of the article is fixed "a " holding piece," consisting of "a clip, clasp, small case, or " recess, slotted or with an opening on each side, or a double " plate so connected as to have a groove on each side," and on the end flap or other side "is attached a frame or loop formed " with cheeks, feathers, or tongues, or cut away at the inner " sides, so as to leave parts projecting inwards." The frame is attached "preferably by an elastic," and the projections "enter "or slide into the slots or grooves in the holding piece," and thereby fasten the article.

Modifications :—The holding piece "may be slotted through," and the frame may be formed "with a single tongue;" or the holding piece may be made "with hook-shaped pieces forming "recesses," and the frame may have on each side projections at "the ends of a bar;" or the frame "may be a fixture," and the holding piece may be caused "to slide to and fro." In all cases there may be a knob "for more conveniently handling" the part which moves.

[Printed, 8*d*. Drawing.]

A.D. 1858, December 20.—N° 2907.

WOODCOCK, Thomas Swann.—(*A communication from Josee Johnson.*)—"An improved index or book and paper marker." This marker is formed from a thin flat strip of brass or other metal; one end is cut "in the form of a human hand and "wrist, with the three lower fingers and thumb closed, and the "first finger distended and pointing at or near a horizontal line," and the other end "in the form of a human foot distended from "its natural position to the aucle and leg so as to form an obtuse "angle more or less therewith." Other distinguishing configurations may be employed. The strip is bent at or near its middle, "so as to cause one of its ends to lie flat upon the other, and the "lower edge of the finger and sole of the foot to be brought into "such relation to each other as to form an acute angle therewith, "so as to admit the edge of the sheet of paper between them."

[Printed, 6*d*. Drawing.]

A.D. 1858, December 21.—N° 2918.

DAWSON, Nicholas.—(*Provisional protection only.*)—"Im-"provements in order books." Each alternate leaf of the book is perforated, so that it may readily be torn out. The leaves are numbered "in such manner that there are two of every number;" thus the perforated leaf will bear a "corresponding number with "the permanent leaf adjoining it." The perforated leaves are either of metallized paper and written on with a metal point, or of ordinary paper and written on with a hard pencil. A piece of carbonized paper is placed between the perforated and the next leaf, so that "an exact counterpart will be at the same time "inscribed on the adjoining leaf." Instead of the perforated leaf being the metallized paper, or the one immediately written on, "it "may be otherwise, so that the copy may be torn from the book "instead of the original."

[Printed, 4*d*. No Drawings.]

1859.

A.D. 1859, January 18.—N° 146. (* *)

LUIS, Jozé.—(*A communication from J. P. Faure.*)—(*Provisional protection only.*)—"A new machine for putting or equalizing and "drying the colours on paper for hangings, bookbinding, boarding, "and fancy paper of every description."

The principle on which the invention rests is that of the triple rotation of brushes imitating the work performed by the workman. This triple rotation is obtained by means of a disc having a continued circular movement communicated to it by bevel wheels or pulleys placed on a longitudinal shaft driven directly from the driving shaft, the latter being governed by a crank, cogwork, or pulleys, in order to give the necessary velocity for drawing on the paper. On the disc pinions are arranged governing the brushes, which are also drawn by the circular movement of the discs, and "by their gearing with the toothed wheels, the pinions "are thus obliged to rotate on themselves during the circular "movement of the disc. In order to force the brushes to work "successively on the different points of their circumference the "rods carrying them and passing by the centre of the pinions "are simply bent at right angles." The axles of the brushes are screw cut, so that more or less pressure can be given to the paper, as required. "The slope of the brushes, arranged so as to cause "them to work successively on all parts of the circumference, is a "principal part in the invention."

[Printed, 4*d*. No Drawings.]

A.D. 1859, January 29.—N° 271. (* *)

MEACHAM, James.—(*Provisional protection only.*)—An apparatus for clasping books, purses, and similar articles, and for retaining and securing papers, letters, and other memoranda. "The sides are rigid, but the clasp being elastic allows of the "insertion of papers, documents, &c." An elastic band for closing books and simultaneously retaining papers is thus described by the inventor:—"The band has a rigid loop for "receiving the back of the book, and two hooks or other con-"trivances which are fastened to the covers; the band is then "secured by a stud and slot, or other similar means, and forms a "spring clasp, so that the book is fastened while it will admit of "being opened to receive papers, and papers may be attached to "either side of the book under the elastic band." Another part of the invention consists of an elastic band with hooks or other similar fastenings.

[Printed, 4*d*. No Drawings.]

A.D. 1859, February 12.—N° 401.

BETJEMANN, George, BETJEMANN, George William, and BETJEMANN, John.—"Improvements in book slides." The slide is composed of (1) a bottom, (2) two slabs, "which are "free to travel to and fro in grooves on the face or upper surface" of the bottom, and (3) two flaps hinged or otherwise connected to the slabs. Grooves are cut in the bottom for the reception of springs, which the patentees prefer to be of vulcanized caoutchouc. One end of each spring is secured to the inner end of the groove, and the other end to the outer end of one of the slabs. By the action of the springs the slabs and flaps "always return to the "position from whence they have been drawn, upon the extra "book or books being taken from the slide." Rollers are fixed "at or near the outer end of the under part of the travelling "slabs or of the flaps;" these prevent the slabs from "being "pressed down out of the level with the bottom of the grooves, "on which the slabs travel, by the weight of the books, which "may be placed upon them." Metal end pieces conceal the grooves which hold the springs, and metal stops prevent the slabs from being drawn too far out.

[Printed, 6*d*. Drawing.]

A.D. 1859, February 21.—N° 478.

SCHLOSS, Joseph.—(*A communication from Vve. Henry Schloss and Frère.*)—"An improvement in locks or clasps for porte-

" monnaies, pocket-books, bags, and other like purposes." This invention is an improvement upon one for which Letters Patent were granted to Joseph Schloss, dated 18th January 1856, No. 136. In a lock case is mounted a lever free to oscillate about its fulcrum, and having at its upper end a hook, and at its lower end a knob or thumb-piece which is " outside of and below " the case." A spring inside the case presses the lever into a position to secure the other part of the fastening, which is a hasp with a hole in it. The hasp is passed through an opening in the case and is pressed slightly; the pressure causes the spring to yield, and allows the hook to enter the hole in the hasp. The lever may be placed so that its knob protrudes from one side of the case.

Modification:—The locking part is composed of two plates (the lower one being perforated for the reception of the hasp, the upper one having a leather flap riveted to it) and two small helical springs attached to the plates in such manner as to keep the upper plate " above the hole." To close the fastening place the hasp in the hole, and press it slightly; the pressure pushes back the upper plate, " and allows it to enter the hole " formed in the hasp." To open it pull the flap down; this compresses the springs and frees the upper plate from the hasp.

Sometimes both fastenings are combined " in one frame," the former to fasten an outside pocket, the latter to secure an inside one. " By these means the fastening is made double-acting;" viz., " by pushing the lever from left to right " the outer pocket " is opened," and pulling the lever down opens the inner.

[Printed, 6*d*. Drawing.]

A.D. 1859, February 22.—N° 484.

HINE, Joseph.—(*Provisional protection only.*)—" An improved " book slide." To remedy a defect in ordinary spring book slides, namely, that in taking a book out of the slide, or in replacing a book, " the binding becomes scratched or injured," the inventor adds to the book slide " a rack and catch," by means of which the slide when drawn out is retained " until released by pressure " of the finger on the end of a rod or other projection in connec- " tion with the catch." The object of the invention is that, when the slide is drawn out, the catch taking into the rack shall prevent the spring from exerting any pressure on the books.

[*Printed, 4d. No Drawings.*]

A.D. 1859, March 1.—N° 540.

WETHERILT, James.—(*Provisional protection only.*)—" Im-" provements in locks." This description of lock, known as the " alphabet or combination padlock," is adapted for cash books, portfolios, trunks, travelling bags, and " other articles of similar " character." The construction of the lock is as follows:—" Take " a flat piece of metal, and having formed a circular hole therein," according to the required size of the lock, adapt to the hole " an " annular flanged piece of metal;" into this fit " another similar " flanged piece of smaller diameter than the former," and into this second piece " another flanged piece of still smaller diameter," but " formed solid and having at its centre and at the back thereof " a pin, which passes through a hole in the case of the lock," keeps the pieces in proper position, and " admits of their being " moved separately in a circular direction." Each flanged piece has on it a projecting ring or curtain, with a notch in one part thereof, " so that, when these notched parts are brought opposite " to each other, the hasp of the lock is free to enter or be drawn " out of the lock." The hasp is formed " with wards or notches " corresponding with each of the curtains;" or it may be made " with steps and in the form of the letter L inverted (if required " for a common trunk lock in which the hasp is hinged), and " enter a hole in the plate of the lock." Letters are stamped around the face of each flanged piece, and a pin projects from each piece " for moving it round."

[Printed, 4*d.* No Drawings.]

A.D. 1859, March 17.—N° 674. (* *)

JOHNSON, John Henry.—(*A communication from Messrs. Sulzberger and Graf.*)—(*Provisional protection only.*)—" Improve-" ments in machinery or apparatus for folding and stitching sheets " of paper."

"The sheets to be folded are laid upon a table, above which is " extended, in a horizontal position, a knife edge or flat blade, " which, in descending, forces the sheet into a slit across the " table and carries it down below the table between india-rubber " or other sustaining bands in a doubled state. A second blade " in a vertical position then advances and forces the once folded " sheet through a second narrow slit or opening which effects the " second fold; and, lastly, a third blade, which is horizontal, and

" at right angles to the last one, completes the third fold, and " forces the folded sheet between a pair of pressing rollers, which " finally deliver it at the side of the machine. The first folding " blade is attached at one end to a vertical sliding bar or rod, " which is connected by a chain to the periphery of a pulley " below. This pulley is caused to rotate and so wind up the " chain and depress the blade by a pinion and toothed segment; " and when the pulley is released the blade is instantly elevated " again by the action of a helical or other spring. The second " blade is rigidly fixed to a horizontal rack, which is caused to " advance by a spur pinion worked by a toothed segment, and is " drawn back again after the fold is completed by a spring. The " third blade is pushed forward for the purpose of effecting its " fold by a cam, and is then drawn back by a spring, as described " in reference to the first and second blades. Moveable register " points are employed for insuring the proper position of the " sheet beneath the first folding knife or blade. When required, " the sheet may be stitched ready for the binder immediately " before the final fold is accomplished, and this stitching is " effected by means of two needles supplied with thread from a " suitable holder, which is arranged to impart the requisite tension " sion thereto. The length of thread required is drawn out of " the holder by a thread carrier, which grips the end of the " thread, and then moves outwards a certain distance so as to " draw the proper length out, which is cut off by a pair of " scissors."

[Printed, *4d.* No Drawings.]

A.D. 1859, March 30.—N° 791.

LINSEY, John Henry.—(*Provisional protection only.*)—" Improvements in binding or covering books." The improvements are applicable more especially to account-books, which become filled with writing before the covers are worn out; and they consist in "fixing to the back of the leaves of the book a strong " cloth or leather hinge as is usually employed; but instead of " gluing or pasting the same to the covers" plates of metal are employed, " one of which is fixed to each cover, and two others " clip or confine the loose sides or flaps of the hinge between " them, so that a new set of leaves may be securely fixed, when " required, without injury to the book or covers."

[*Printed, 4d. No Drawings.*]

A.D. 1859, May 26.—N° 1306.

DRAPER, JOHN. — "Improvements in applying indices to "account and other books." The index is a separate book, having its leaves cut out as heretofore, but printed with index letters on both sides, so that the same letter or letters may be read on a left and right page. It is to be fixed to either cover of an account-book (but by preference to the end cover) near its front edge, so that when folded out it "will lie on the table or ". desk to the right hand of the book," and the back as well as all parts will be beyond the cover of the book. The index may be attached to the cover by a strip of cloth or other strong and flexible material, or "to the edge of a strong leaf bound into the "book for the purpose;" and in very large books a metal hinge may be employed; in either case "it is to fold into and be shut "up with the book, and in such a manner as not to protrude" beyond the covers.

[Printed, 6*d*. Drawing.]

A.D. 1859, May 27.—N° 1315.

NISSEN, HILARY NICHOLAS. — "An improvement in book indexes." This index, which may be termed "a double index," is made by "cutting or placing along the top or bottom end, or "both top and bottom ends of the leaves or book of which the "index may be composed, another index running either to the "right hand or to the left hand. Thus reference may be made "to all or any preceding as well as succeeding parts," without "first turning back the whole or any part."

[Printed, 4*d*. No Drawings.]

A.D. 1859, August 4.—N° 1801.

WALTON, FREDERICK.—"Improvements in the manufacture "of ornamental fabrics suitable for bookbinding and other uses, "and in machines employed in such manufacture." A woven fabric (usually a stout calico) or a strong paper is employed as a base, and as a surface a thin paper unsized and of the desired colour; but "thin fibrous webs formed by cementing together "thin layers of fibre," or "a thin layer of fibre" cemented together "by resinous cement" may be substituted for a thin paper.

The composition to unite the two consists of 5 lbs. of fibre, by preference "fustian-cutter's flock," mixed with 2 lbs. of india-rubber dissolved in one gallon of naphtha; the requisite coloring matter is then added.

The machinery is composed of pressure, guide, and embossing rollers and drums. The fabric is wound round a drum above the pressure rollers, and the thin paper round one lower down. The fabric in its descent receives the composition between the upper pressure and a side roller; the thin paper ascends, and the two are passed between the pressure rollers (the lower of which is adjustable), "and the whole is thus made into one " fabric," which passes out round another roller to a steam drum. Before the fabric reaches the pressure rollers, a side roller " serves to equalize the thickness of the sheet of com-" position." The compound fabric now is subjected to the embossing rollers, which may be driven "very slightly in excess" of speed, so as "to keep the fabric tightly strained." A varnish, " which produces a hard, flexible, and transparent film," is afterwards applied to the surface of the fabric. To obtain "a very " sharp embossing," a plain roller is used instead of an embossing roller; and when the coating of varnish is hard, the fabric is passed between embossing rollers, " which are warmed, but should " not be hot enough to soften the varnish."

Instead of the above arrangement, "the foundation and face " fabrics may be made to pass, the one round one of the " embossing or calendering rollers," and the other round the other, the composition being fed in between "the two rollers;" in this case "the face fabric is by preference coated with varnish " before it is brought in contact with the composition." The entire process is effected by these rollers, "and the fabric passes " away from them in a finished state."

[Printed, 8*d*. Drawing.]

A.D. 1859, September 1.—N° 1992. (* *)

BRINE, James.—(*Provisional protection only.*)—Improvements in arranging manifold letter books. The inventor arranges leaves of copying and common writing paper alternately, and binds them together. "Each prepared leaf and its fellow plain one have the " same index number or initial letter." He perforates the side of *the plain leaf* next the binding, so that when it has received the writing it can be easily torn out. A sheet of the ordinary black or carbonized paper is placed between the copying and the plain leaf, and the matter is written on the copying leaf.

[Printed, *4d.* No Drawings.]

A.D. 1859, September 5.—N° 2024. (* *)

BARRE, JEAN BAPTISTE HENRI HONORÉ RAYMOND, and **BARRE, JEAN BAPTISTE MARIE ERNEST.**—" Improvements in " cutting out or engraving metals and their alloys." The design to be produced is drawn on a lithographic stone, the parts intended to be in relief being drawn black. When the design has been " bitten in " the stone is washed with a volatile oil to remove the ink. The stone is then damped and covered with a composition composed of half strong printer's mordant, half copal oil varnish, with a tenth of printing ink. The design is printed off on paper and then transferred to the plate of metal or alloy; the plate is then powdered with a composition consisting of four-fifths resin and one fifth wax or stearine; the powder adheres to the inked design; the other parts of the plate are dusted, and the plate is then heated. The design is thus covered with a resisting coating, and the other parts may be attacked by acids in the usual way. Amongst the articles mentioned as capable of being decorated by this process, are "book-markers" and "bindings for books."

[Printed, *4d.* No Drawings.]

A.D. 1859, September 12.—N° 2071. (* *)

GUTCH, THOMAS GREGORY.—(*Provisional protection only.*)—Improvement in letter and order books. The inventor uses "a " sheet of oiled paper folioed and ruled with feint lines, and " column lines for numbers, &c." He then places "a plain sheet " of paper folioed and ruled, and also perforated for the purpose " of easy removal." Between these two sheets is "a moveable " piece of two-sided carbonic paper, and for the purpose of writing " either a style or pencil may be used."

[Printed, *4d.* No Drawings.]

A.D. 1859, November 14.—N° 2579.

GOLDBERG, JOSEPH, and **GOLDBERG, GUSTAV.** — (*Provisional protection only.*)—" Improvements in the construction of " purses or ' portemonnaies,' and in an improved lock or fastening

" applicable to purses, bags, or other similar receptacles." The improvement in purses or pocket books and purses combined consists in constructing the sides with gussets so that more space may be afforded for the insertion of articles.

The improved fastening is composed of a "double headed " sliding bolt or stud" and "two plates of metal (one being " secured to each of the edges or parts to be secured together), " having a straight slot terminating in a circular orifice formed " therein, such orifice being at opposite ends in each plate." The plates are fastened by the bolt, which retains them together " so long as it remains in the straight slot," and they are disconnected by sliding the bolt " to the orifice at the end of the " slot," through which the bolt is then drawn.

[Printed, 4*d*. No Drawings.]

A.D. 1859, November 17.—N° 2604. (* *)

DRIEU, JEROME ANDRÉ, and LEGEAY, AUGUSTE.—" A tissue, " being a substitute for leather, millboard, and papier maché." " The invention relates to the manufacture of a thick tissue of " any material capable of being woven, such as cotton, flax, wool, " silk, or any other fibrous material, either singly or mixed, and " combined together, and consists in using more than one warp, " the one loose, the other as lacing or stitching, besides the one " weaving in the ordinary way, the two faces (under and over) " of the said tissue, and forming altogether a single and solid " cloth, as thick as required in proportion to the weft used. " After it is woven and out of the loom, the cloth is dipped in a " hot solution, of which 'joiners' glue,' soap, and alum form the " basis; when half dry it is placed in a hot press, and there left " to dry."

[Printed, 6*d*. Drawing.]

A.D. 1859, December 8.—N° 2788.

RUMPFF, AUGUSTUS.—(*A communication from C. Weintraud, the younger.*)—(*Provisional protection only.*)—" An improved fastening " for porte-monnaies, portfolios, bags, and other like articles." A bed plate is secured to the one side of the article and a hasp to the other, and from the plate " rises a metal staple which is folded over and lies parallel " with it, " a space being left between it and " *the plate.*" " In the end of this staple is an aperture to receive

" and allow of the passage through it of the hasp." Over the bed plate is fitted a sliding bolt having " an aperture for the " reception of the hasp after passing through the staple;" the hasp is caught in the aperture in the bolt " and is retained in it " by means of an india-rubber or other suitable spring." To open the fastening the bolt is pushed aside.

[Printed, 4d. No Drawings.]

A.D. 1859, December 27.—N° 2952.

HOUSE, John James, and MARTIN, Henry Alfred.—(*Letters Patent void for want of final Specification.*)—" An im- " proved method of application and arrangement of indexes to " account and other books." In binding the book space must be left for the insertion of the index. " An ordinary loose index, " with alphabetical letters printed or affixed thereon on either " side of the leaf, front or back, according to which end of the " book the index is to be applied," is secured to the book by pasting it (or by other means) to the inside of the cover, so that it can be " opened out so as to extend beyond the book and allow " the same being turned over or used with perfect freedom " without being obliged to lift the leaves of the book."

[Printed, 6d. Drawing.]

1860.

A.D. 1860, March 23.—N° 763. (* *)

SNOW, George Knowles.—" Improvements having reference " to bookbinding and the folding and pasting of sheets of paper " therefor."

The invention consists in folding a sheet of paper with back folds, and into two connected signatures, having their connection along and between the front edges to be trimmed, and so that the connection may be trimmed or separated with such front edges while they are being trimmed by the usual process, the patent process involving the back folding of the sheet one or more times in making its first folding, and the back folding of it twice or more times in making its second folding, or that which is at right angles to the first folding; also of mechanism for applying paste or cement on such part or parts of the sheet as may be required to cause it to stick together at any two or more of its folds or lines of fold. There is a contrivance in the mechanism shown for moving the abutment of a carriage away from the sheet receiver of the conveying apparatus, so as to enable the latter to expel an imperfect sheet or an imperfectly folded sheet. Also in connection with the above is a heating machine, so applied as to heat a pack of folded paper while in the machine, so as to facilitate the drying of the pack or paste.

[Printed, 1*s.* 2*d.* Drawings.]

A.D. 1860, May 22.—N° 1254.

WILSON, Joseph William, and HARRIS, John.—(*Provisional protection only.*)—" A new method of constructing and " forming boxes or cases for containing and enclosing different " articles, more especially during their transmission by post or " or other conveyance." These boxes are constructed in such a manner that "they will, when not in use, fold up and occupy " little space." Each is composed of three distinct pieces, one forming "the sides or periphery," the other two "each an end;" in the former, "near to and parallel with the edges," is cut on each side a longitudinal slot or groove, and transversely are cut as many grooves as there sides to the box. The end pieces are held within the longitudinal grooves, "while the transverse grooves " enable the sides to mitre into each other when the box is closed " or folded." To strengthen the end pieces, "hinges of canvas " or other similar material may be affixed to them and the other " piece." A cover of paper, linen, leather, or other substance is secured to the outer face of the single piece, "and an extension of " this cover forms a lappet, which, being made adhesive, doubles " over when folded and holds the various faces together;" these may be further secured by straps if necessary. The boxes may be made "of wood, millboard, cardboard, leather, or any artificial " compound, or of metal plates, or any combinations of these," and their shape may be "of almost any regular form," but by preference "square, oblong, hexagonal, or horizontal."

[Printed, 4*d.* No Drawings.]

A.D. 1860, July 6.—N° 1637.

HUGHES, Edward Thomas.—(*A communication from Auguste François Dusautoy.*)—" Improvements in machinery or apparatus " for pressing and ironing, applicable to clothing, bookbinding, " and other purposes." Four machines are described; the first (in which the iron is moveable) consists of, 1, framing; 2, a table supported by a column and girder; 3, an iron attached to a rod which slides in a fixed guide; 4, a pedal connected by levers, &c. to the upper extremity of the rod; and 5, a balance weight for bringing back the iron to its original position after each operation. " The height of suspension of the iron " can be regulated. The iron is a hollow box of cast or other metal and heated by gas.

In the second machine the iron is stationary and the table moveable; the table, fitted on a cast iron frame, " descends by " its own gravity," and is raised into contact with the iron by means of a pedal and levers.

The third is " for hotpressing and ironing tubular " articles; the table is fixed and stands out from a column; " in shape " it resembles a long tapered horizontal beam secured at its " largest extremity," and the iron is moved up and down by a pedal (the connection of the two being fully explained). " Different shaped rests " can be attached to the framing " in " order to hotpress or iron different parts of clothing," such as shoulder pieces, &c. In this machine it is preferable to use a modification of the iron " in order to admit of its being worked " horizontally and inclined to the right or to the left;" the modification is described.

The fourth differs from the third " by the iron being fixed " and the table or beam moveable," one end of the latter being suitably connected to a pedal.

[Printed, 1s. Drawings.]

A.D. 1860, August 22.—N° 2022.

GRUMEL, François Remy.—" Improvements in the albums of " collection of photographic and lithographic proofs, engravings, " and other drawings." Each leaf of the album is composed of three layers, by preference of thin cardboard; the outside ones " have a portion of their central parts cut out in form a little less " than the cards " to be inserted, and the middle one " has also a

" portion cut out in the centre, but larger than the other two, " and in addition it has a portion cut away from the bottom." The edges of the layers are glued or cemented all round, " save " where the portion of the middle layer at its bottom edge is " cut away;" care must be taken that the central spaces coincide. The card is pushed through the bottom opening to the central spaces, and if two cards are inserted, they must of course be placed back to back. " A small slip of cotton or skin attached to " one side forms a hinge or substance to bind the leaves so as to " form a book." Each leaf may be made to " contain several " spaces, each holding cards."

[Printed, 6*d.* Drawing.]

A.D. 1860, September 15.—N° 2249. (* *)

BARNWELL, STEPHEN, and ROLLASON, ALEXANDER.—" Improvements in combining and mixing certain solutions of " pyroxylene with animal, mineral, and vegetable substances, by " which its quality is altered in such manner as to produce hard, " resistent, adhesive, plastic, or resilient compounds and articles " unalterable in their nature and varied in colour, which said " compounds, in a state of solution, may also be advantageously " employed as paints or varnish." The pyroxylene is made in preference by steeping common rags in nitro-sulphuric acid. The acid used on a former occasion, made up to its original strength by a little stronger acid, is employed. The compound solutions or pastes of pyroxylene with other ingredients are formed according to their special requirements. The following is a list of ingredients: — " Oils, essential, animal, vegetable, or mineral. " Gums, resins, balsams, tar, pitch, bitumen, cements, wax, " tallow and grease, india-rubber, and gutta percha. Ivory " and bone dust, powdered bark, farinaceous and amylaceous " substances, starch, and dextrine. Vegetable or mineral pig- " ments and bronzes may be introduced as colouring agents, care " being taken that everything employed in the compound be free " from water." Amongst numerous proposed applications it is mentioned that the materials manufactured under this invention may be employed " for bookbinders' uses, both as a cement and " also as a material for the covers of books."

[Printed, 6*d.* No Drawings.]

A.D. 1860, October 5.—N° 2408. (* *)

TUCKETT, CHARLES, junior.—" An improved method of orna-" menting book-covers, which is also applicable to other pur-" poses."

The invention consists in printing or drawing designs on the same with acids, alkalies, oxides, salts, metallic salts, or neutral salts, or otherwise applying various dyes in combination with the acids, &c., so as to produce any shade or shades of colour required, thereby enabling the artist to produce perfect harmony of colour or tint in the design or drawing without injury to the surface or wear of the leather, and without inlaying the colours as formerly practised. To effect this, " I take uncoloured or white calf leather, " and after tracing or drawing the design thereon, I pick out or " pencil in with suitable chemicals, such as sulphate of iron, " for producing any shade from black to light grey, and also any " shades of brown are produced either by salts of tartar alone, or in " combination with sulphate of iron, or by other chemical means. " I also take Morocco, calf, or other leather used for the covering " of books or other articles, being first dyed in the usual way— " say a dark chocolate colour—and after the design has been traced " thereon, it is then to be picked out or pencilled in with suitable " chemicals—say oxalic acid, or other acids, or metallic salts, " which will produce suitable tints as desired."

[Printed, 4*d*. No Drawings.]

A.D. 1860, October 31.—N° 2661. (* *)

GHISLIN, THOMAS GOULSTON.—(*Provisional protection only.*)— " Preparing, applying, and adapting certain articles of vegetable " production, called Eiklonia buccinalis, Proteaceæ, Juncus ser-" ratus, Juncus trista, and Amaryllideæ to further new purposes " of manufacture."

The first article is the only one connected with the subject of this series. It is described as " a marine plant which, on account " of its peculiarity of form, I call the *algæ trumpata* (*Eiklonia* " *buccinalis* of botanists), embracing several varieties both solid " and hollow;" it is to be applied as a substitute for shagreen, dogskin (fish), German stag, buffalo, buck, and other horns, whalebone, &c.; and in (among other things) ornamenting books, portfolios, &c.

[Printed, 4*d*. No Drawings.]

A.D. 1860, November 9.—Nº 2760.

WALLIS, John William.—"Improvements in book indexes." The letters of the alphabet are printed "on a sheet within the "cover of the book but projecting rather beyond the leaves," so that the alphabet can be seen when the book is open; or the projecting alphabet "may be printed in or fixed to the inside of "the cover," and instead of being on the side it may be "at the "top or bottom or on both or all three." An ordinary index alphabet also is employed having the letters printed on both sides of the sheets, and "to every sheet carrying the letters" is affixed a tab of parchment, vellum, or other suitable substance, brought off to a point and having "a metal eyelet or other like appliance "therein." The invention is equally applicable "to indexes of "figures and signs."

[Printed, *6d.* Drawing.]

A.D. 1860, November 10.—Nº 2765.

TROUVÉ, Fortuné.—"A system of publicity called 'memento "'agenda;' otherwise an illustrated general cabinet and pocket "agenda." The patentee has produced a diary which is provided on its pages and cover with "divisions or borders of various forms "and dimensions intended to receive advertisements and directions "placed in juxtaposition to such matters of daily import and "reference as shall command attention to them;" it consists of a calendar and daily diary. "On the left of the cover, which is "divided into compartments for advertisements, and of the "ordinary calendar, illustrated also with advertisements," will be found "every information concerning the administrative, "judicial, legislative, and diplomatic bodies," and the advertisements "of the purveyors to the courts of England and foreign "courts." Each page of the daily diary contains space for two days; on the left are the advertisements and addresses of the principal public companies, bankers, solicitors, doctors, and other similar references, together with those of the theatres, concert rooms, &c., while the right is left blank for memoranda. The book will contain also railway time tables and other information always so placed as "almost of necessity" to direct attention to it. There will be "about fifty leaves of print," and the book may be sold at "a much lower price than that of ordinary diaries." The book may be made of two sizes; in crown quarto for the cabinet and office, in octavo for the pocket; the latter "will "contain on the left the names of the streets of the town and "will be closed with a pencil."

[Printed, 4*d.* No Drawings.]

A.D. 1860, November 16.—N° 2818. (* *)

BODMER, Rudolph.—(*A communication from Carl Bernhard Gruner and George Adolph Keller.*)—"Improvements in machinery "or apparatus for folding and for folding and stitching sheets of "paper and other material."

The papers are taken one by one from a pile and placed upon the platform in the machine where they are adjusted to guide pins. Two plates forming the platform are divided by a narrow slot, and the paper is placed so that the centre line between the edges of letterpress falls as nearly as possible in a line with the centre of this slot. A knife descending doubles the paper and forces it through the slot between two sets of elastic surfaces, where a second knife doubles it a second time by forcing it through a slot, after which it is again folded by a third knife in a similar manner. It then passes between glazing rollers which deliver it from the machine. The stitching takes place before the last folding and on the line of the last fold. The needles are fixed to a bracket which has a backward and forward motion in the direction of the folded paper. The threads from the bobbins are seized at the ends by small pincers, cut to the required lengths by shears, and placed upon the needles, which pierce the paper and deposit the threads in it. As soon as the needles have pierced the paper, the folding blade advances, folds the paper for the last time, and forces it between the pressure rollers as already described. 2. The machine for folding newspapers is entirely self-acting, and is distinguished from 1 by having apparatus for seizing the sheets and removing them from the piles, and placing them ready for receiving the first folding. Each receiving table has a table corresponding with it. The sheets intended to form the outside when folded are laid on the lowest, and those to be inside on the uppermost table. If two sheets are to be folded together, the knife descending breaks and folds the first sheet, and with this sheet upon it strikes and doubles the second sheet on the lower platform, forcing the two sheets, one on the other, between the elastic surfaces, which holds them ready for being folded the second time, after which the operations described for pamphlet folding are repeated. The sheets are seized and placed on the platform by tubes or hollow bars with small perforated projections on their surfaces, and connected by piping with an air cylinder. The hollow bar on the upper platform is connected with that on the lower platform, and both are made to move across and reach the sheets at the top of each pile, when by exhausting the air in the bars the sheets adhere to the bars until they reach the place for the first folding where they are released.

[Printed, 1*s.* 6*d.* Drawings.]

A.D. 1860, November 17.—N° 2834.

HOGG, James, the elder, HOGG, James, the younger, and HOGG, John.—(*Provisional protection only.*)—" Improvements " in ornamenting the edges of cloth-bound books." This invention is to apply only to " cloth-bound books when cut solid," any reference to " books bound in leather or patterns upon book " edges cut solid and gilt all over " being specially disclaimed; it consists " in the application of gold or colored lines, plain or " ornamental, or patterns to the edges " of the books in such manner as " to produce a pattern upon the said edges, either " when they are left white (the colour of the paper), or on " a white ground, or stained with any suitable colour, but not " gilt." The lines or patterns are impressed " in the usual " manner resorted to by bookbinders," namely by fixing the gold or colour by means of some " convenient preparation," and by the use of an engraved roll or block or separate stamps. The pattern preferred is one, " produced by a twisted or rope-like gold " line or roll, about one-sixteenth of an inch broad," so disposed upon the edges of the book as to have the appearance of " an " outline chess-board," with the hollow squares " placed obliquely " or diamond-wise."

[Printed, 4*d.* No Drawings.]

A.D. 1860, November 19.—N° 2835.

FORD, Henry.—(*Provisional protection only.*)—" Improvements " in coating or enamelling paper, pasteboard, cardboard, cloth, " silk, or other similar fabrics." The inventor coats these fabrics with a mixture composed of " one pint of methylated spirits of " wine, two ounces of shell lac, one ounce of gum juniper, one

" quarter of an ounce of gum mastic, and from one quarter to " one half of an ounce of clear resin," although he does not confine himself to these precise proportions. The ingredients being well amalgamated, he applies a coating, " brushing it over the " surface rapidly," and then allowing it to dry. He repeats the coatings until a sufficient body of the composition remains upon the surface, and as soon as this is set sufficiently hard, the fabric (if necessary) is laid between plates of metal, and the whole is passed between a pair of ordinary paper pressing rollers.

Paper thus enamelled is highly serviceable for artists' purposes, and as a substitute for asses' skin and children's slates. Muslin, cloth, canvas, and other woven material, when so treated, form "a " very useful article for draughtsmen, builders, and engineers, " upon which to make their working drawings," and " for book-" binders, producing a cloth uninjured by water."

[Printed, 4*d*. No Drawings.]

A.D. 1860, November 28.—N° 2923. (* *)

GILLETT, HENRY.—(*Provisional protection only*) — " Improve-" ments in the ornamentation of the edges of the leaves of photo-" graphic albums especially intended for 'cartes de visite.' "

" The object of this invention is to ornament or illuminate the " edges of albums generally, but more especially those containing " photographic pictures known as 'cartes de visite.' "

" I propose ornamenting such edges with various designs, " such as flowers, designs in the style of Arabesque, Italian, " Grecian, Alhambrian, or any other style suitable for such pur-" pose, either plain or in colours, or gold, or gold intermixed " with colours, such ornament being either printed, stencilled, " painted by hand, transferred, or placed upon the edges by any " convenient process."

[Printed, 4*d*. No Drawings.]

1861.

A.D. 1861, February 7.—N° 313.

BOYD, JAMES EDWARD.—(*Provisional protection only.*)—" Im-" provements in the manufacture and preparation of paper, and

" in the method of printing and otherwise preparing the same." The object of this invention is to effect a more ready cutting of the sheets or leaves of newspapers, books, and " other letter-press " matter." The sheets or leaves are perforated or cut wholly or partially by one or more perforating instruments or appliances, either attached to or detached from some part of a printing press. The paper may be perforated either " before going to press or after " it has passed through the letter-press," or " before or subsequent to the issue and publication," or " in the course of its " progress of manufacture or previous to leaving the paper mill."

[Printed, 4*d*. No Drawings.]

A.D. 1861, February 23.—N° 469. (* *)

POHL, Ludwig.—(*A communication from Paul Luz.*)—" Improvements in albums or books for holding photographs, engravings, and other representations, and in binding together " sheets or pieces of pasteboard or such like stiff materials, " especially for the purpose of forming such albums or books."

The pages have no raised parts on their surfaces, so that when the book is closed the pages lie flat over one another.

1st. To facilitate the sliding out of the photographs.—" At the " under edge of the slit or opening contrived for the purpose, and " on the inner side, I attach a strip or piece of paper or equivalent " material by another strip placed over their junction, (that is, the " part where they touch,) in such manner that this arrangement " destroys the obstructive effect of the edge, the strip first named " merging as it were into the same plane with the cardboard or " material of the sheet to which it is attached, and acting as if it " were a continuous surface with it, so that the picture or such like " article may slide smoothly over it when being drawn through." When there are pictures or the like on both sides of the sheet, " this arrangement also serves to keep them separate."

2nd. To bind together sheets of pasteboard.—The following mode is adopted, which is especially applicable to photographic albums :—" I attach the thick sheets to be bound to folded strips " or pieces of leather, cloth, or similar flexible material, which I " call connecting strips, each strip connecting one side of one " sheet with the adjoining side of the next; I bind or connect " *together* a required number of folds of paper or equivalent

" material; I attach the back of the leather or other flexible con-" necting strips to and between the sets of paper (or equivalent) " folds. The order of the operations may be varied."

[Printed, 8*d*. Drawing.]

A.D. 1861, March 1.—N° 522.

MOTT, JOHN WILLIAM.—(*Provisional protection only.*)—" Im-" provements in purses, bags, reticules, pocket books, dressing " cases, and other similar portable receptacles;" namely in the method of fastening them. The flap or "folding over portion" is formed " with a narrow or comparatively narrow part or neck " terminating in or followed by a part of greater width," and the wide part being passed through a mouth or opening " provided " for the purpose and narrower than itself," and subsequently " expanding or being expanded to its full," secures the flap sufficiently to prevent its becoming accidentally withdrawn. In some cases a spring is attached to the wide part, " tending to keep " it constantly expanded." The opening may "constitute the " mouth or opening of a special division" of the article; and again the article may have all its pockets secured by one flap and tongue; or one or more of the pockets may be provided with separate flaps and tongues, while an external flap covers and secures the whole.

[Printed, 4*d*. No Drawings.]

A.D. 1861, March 19.—N° 687.

WEST, BENJAMIN.—" Improvements in cutting and ornament-" ing the edges of books, paper, vellum, and other substances, " and in apparatus connected therewith." The two operations of cutting and ornamenting are accomplished in one machine of the following description:—A frame of iron or other suitable material is provided with two parallel rails, along which a carriage carrying a screw press travels. "Across the upper " portion or vertical sides of the frame a knife is fixed and " adjusted by means of screws in a horizontal position," and beyond the knife "one or more ornamental rollers, segment or " segments of rollers, or dies, blocks, plates, or types," and on the vertical sides of the frame "other knives and rollers," &c. These are all so arranged that when the carriage and press (containing the book or sheets) are moved forward by any power, the book is propelled first against the knives which cut the edges, and then under the rollers, &c. ("charged with colour by the inking or "colouring apparatus now in ordinary use" and attached to the frame), which ornament the edges so cut.

The machine can be used for cutting only "by not bringing "the inking and ornamenting apparatus into action." It can also be rendered double-acting "by placing a knife or knives at "each extremity of the frame."

[Printed, 4*d*. No Drawings.]

A.D. 1861, April 6.—N° 853. (* *)

GHISLIN, Thomas Goulston.—(*Letters Patent void for want of Final Specification.*)—"Preparing, applying, and adapting "certain vegetable productions called Eiklonia buccinalis, "Proteaceæ, Juncus serratis, Juncus trista, and Amaryllideæ "to further new purposes, and certain modes to effect the same."

"Protection has already been given to me by patent 1049, in "the year 1857, for these plants for certain uses; but the uses "herein-mentioned are new discoveries made by me since the "patent was filed." Among the uses to which the first article is applicable are "manufacturing, coating and ornamenting," "book "covers, portfolios," &c., superseding as a means of ornamentation and inlaying "leather, shagreens, fish, dogskin, German "staghorn, buffalo, buck, and other horns, whale and other "bones."

[Printed, 4*d*. No Drawings.]

A.D. 1861, April 11.—N° 895.

BROOMAN, Richard Archibald.—(*A communication from Leon Bertin and Pierre Carteron.*)—"Improvements in sizing or "preparing paper and textile fabrics in order to render them "waterproof, and to increase the strength thereof." This prepared paper is "applicable for bookbinding and for purposes "where cardboard has been hitherto employed." To render paper waterproof, "take of lime 100 kos. (about 220 lbs.); of sub-"carbonate of soda 100 kos. (about 220 lbs.); of resin, 270 kos. "(about 594 lbs.); of gamboge, 30 kos. (about 66 lbs.)"

"First, slack the quicklime and make a milk of lime; second, "dissolve under heat the salts of soda, and pour the milk of "lime into the solution while boiling until precipitation ceases, "withdraw the mixture from the fire, allow it to rest, and decant;

" third, dissolve the resin and gamboge, previously pulverized " and mixed in an open iron vessel over a slow fire, and this " should be done in the open air; fourth, stir in by degrees the " resinous matters which are in a state of fusion in the solution " of caustic soda until the resin ceases to be dissolved, then " allow to cool." The product "solidifies in a mass; it is separated from the mother waters and preserved for use."

Any other resinous matters "capable of being saponified by " alkalis," will give a similar result.

Two waterproofing baths are described:—The first consists of "10 kos. (about 22 lbs.) of the resinous mass" dissolved in " 100 litres (about 22 gallons) of boiling water;" the second of " 10.kos." of alum dissolved in "100 litres" of boiling water.

The paper is immersed in the first bath at a temperature of about 104° Fahrenheit; it is then wound on a wooden roller and dipped into the second; after this it is rolled "on a double roller " clothed with woollen cloth," dried between iron or copper cylinders heated by steam, and finally wound on a roller ready for use. Paper in short lengths after leaving the baths "is placed " on pins or pegs and taken to a drying room."

For white paper the gamboge is dispensed with.

Paper may be waterproofed during the manufacture by pouring into the pulp and well mixing with it the resinous product first gradually dissolved in boiling water, and in from ten to fifteen minutes afterwards adding small portions of pounded alum while the pulping engine is at work.

[Printed. 4*d*. No Drawings.]

A.D. 1861, May 2.—Nº 1101. (* *)

CLARK, WILLIAM.—(*A communication from Jean Joseph Germain Marius Arthaud.*)—" Improvements in the imitation of gold " & silver embroidery."

The patentee defines these improvements as follows:—

" This invention relates to imitations of lace and embroidery in " gold and silver by the employment of wire gauze. Metal gauze " (silvered or gilt by means of a pile or in other ways) generally " has a rough edge where it is cut across the wires forming the " metallic web. This may be avoided in a measure by subjecting " the web to a galvanizing process until it loses more or less of its " original woven appearance. In either case, that is, whether

" galvanized or not, the metal web may be silvered or gilt by " means of an electric bath or in other ways, In this state the " web is cut up in pieces for use according to this invention by " means of tools employed by artificial flower makers or by means " of a cutter or other apparatus. At the same time as I cut out " or shape the pieces of metal gauze which are to imitate embroidery, I cut out a similar piece of muslin or gauze paper, lead " foil, gilt or silvered paper, cardboard, tinsel, or other similar " material. These different materials may be employed either " singly or collectively by pasting them together for the purpose, " 1st, of imparting the proper tint to the artificial embroidery, the " colors of which materials are visible through the transparent " metal gauze; 2nd, to impart a relief surface to the designs for " closely imitating hand embroidery. The materials thus prepared and ornamented may be applied to fabrics, cardboard, " bookbinding, portfolios, carpets, paper hangings, woodwork, " and other purposes by pasting, rivetting, sewing, or otherwise " fixing them." Lastly, " I may also employ steel studs or fastenings of all shapes and forms and imitation precious stones " for the above purposes."

[Printed, 4*d*. No Drawings.]

A.D. 1861, May 9.—N° 1176.

STERN, Ferdinand.—(*A communication from Siegmund Rothschild*).—(*Provisional protection only*.)—" Improvements in fastenings for portemonnaies, pocket books, cigar cases, and similar " articles." A hook or headed projecting pin is fixed upon the body of the article, and a metal plate or mount having through it an aperture corresponding to the hook upon the flap. The plate " may be double, and is provided with a bar which may be " enclosed between the two thicknesses of the plate and hinged " at one end thereof." When the flap with its plate is brought over the hook, the hook will enter the aperture and be retained there " by shutting down the hinged bar which enters the hook " or fits over the headed pin."

[Printed, 4*d*. No Drawings.]

A.D. 1861, May 18.—N° 1271.

SOTHEBY, Samuel Leigh.—" Improvements in the bindings " *or coverings* of books and portfolios, which improvements may

" be applied to dispatch boxes, ladies' work boxes, office boxes, " and such like articles." The object of this invention is to save books from injury from their contact with the neighbouring volumes or the sides of the bookcase, and to allow of a change in the ornamentation of the sides of the covers; also to protect the sides of portfolios and the tops and sides of the other articles mentioned from being scratched or defaced. The outside of the covers of a book or portfolio is made so as to have "the appear- " ance of a panel in frame," and "a long slit or opening of " rather greater length than that of the panel is left in the inside " of the cover (or at the top or bottom thereof)," and an ornamental design on paper or other substance is inserted through the opening, and held secure between the panel and frame. Or the frame or the edges thereof may be of any elastic or semi-elastic material, and the design can be inserted by raising the edges. The latter arrangement is recommended for work boxes and like articles.

[Printed, 4*d*. No Drawings.]

A.D. 1861, May 30.—N° 1355.

HEINEMANN, Louis.—(*A communication from Messieurs Stautz and Company.*)—"An improved fastening for purses, reticules, bags, " belts, bands, pocket-books, cigar, writing, and instrument cases, " and other similar purposes." On each side of the mouth of the frame is a piece of metal (termed a seat) which projects from the top surface of the mouth and over the inside edge. The seats are similar in shape and size in transverse section, although they may be of different lengths, and when the mouth is closed they " come " in a line with each other, each projecting sufficiently for that " purpose over the opposite lip of the frame." A sliding hollow piece of metal (called a saddle) carrying a knob is fitted astride one seat, and "kept on the seat and steadied in its travel by " means of a small pin fixed in one side of the saddle, and pro- " jecting inward so as to enter and slide along a groove or slot " cut in the corresponding side of the seat." When the article is to be fastened the lips are brought together, and the saddle is slidden along until it comes over a portion of the other seat. The saddle and seats may be of any similar shape, and "a lock may " be let into one of the seats, so that the keyhole comes flush " with the top surface."

[Printed, 8*d*. Drawing.]

A.D. 1861, July 12.—N° 1756. (* *)

SMITH, Thomas John.—"Improvements in photographic "albums."

This invention "relates to an improved manufacture of photo- "graphic albums, the improvements consisting in the manufac- "ture of the leaves of such albums of parchment, vellum, textile "fabric, or paper mounted upon textile fabric, such materials "being more durable and less liable to be torn by the insertion "and removal of the photographic pictures than the paper or "cardboard hitherto employed in the manufacture of the leaves "of books for this purpose."

In addition to the advantage of greater strength and durability, "a further advantage arises from the use of the materials above- "mentioned, inasmuch as the sewing or stitching of the leaves "when binding the album is entirely dispensed with, there being "sufficient strength in the leaves to admit of their being simply "glued to the back piece."

The Specification describes, and the Drawings show a sheet of parchment pasted "over the two contiguous faces of any two of "the leaves, the body or inside part of such leaves being com- "posed of cardboard" "cut out in the centre to allow for the "thickness of the photograph in the usual manner." The series of leaves being united by the cementing of the above-mentioned sheets of parchment thereon "are glued to the back piece," "and "thus the necessity for sewing is avoided."

[Printed, 6*d*. Drawing.]

A.D. 1861, September 28.—N° 2428.

POTTS, Thomas.—(*Provisional protection only.*)—"An improve- "ment in clasps for books, portfolios, desks, and other similar "articles." The clasp is formed with a spring and with a spring catch, "in such manner that on the spring catch being liberated "by pressure upon a knob, or otherwise, the spring shall cause "the clasp to fly up or out from the catch." The spring has also the effect of preventing the clasp "from falling on the edges "of the leaves when fitted to a book," or from falling below the level at which it is fixed.

[Printed, 4d. No Drawings.]

A.D. 1861, October 4.—N° 2482. (* *)

GHISLIN, Thomas Goulston. — " Improvements in the " treatment or preparation of certain foreign plants or vegetable " substances, and in the application of the same to various useful " purposes, for which horn, shell, whalebone, indurated leather, " fish skin, ivory, bone, hard wood, and compounds of india- " rubber, or gutta percha, have hitherto been employed."

It is proposed to apply "the plants and substance known to " botanists as the Eiklonia buccinalis, Laminariæ buccinalis, " Duvillea utillea, Sarcophycus potatorum, and their allies," among other uses to the manufacture of " book covers." " The general character of the treatment which I employ for " preparing the crude plant, consists in submitting it first to the " action of such chemical substances as tend most effectually to " destroy its hygrometric properties, such for instance as alkalies " or alkaline earths; the plant is afterwards subjected to such " other chemical agents as will most effectually harden the sub- " stance of the plant, by preference mineral acids, which will also " neutralize any free alkali that may remain in the plant after " being moulded, pressed, or otherwise formed into the desired " shape."

[Printed, 4*d*. No Drawings.]

A.D. 1861, November 1.—N° 2739. (* *)

CLARK, William. — (*A communication from Claude Mamès Augustin Marion.*) — (*Provisional protection only.*)—" Improve- " ments in photograph albums."

" This invention relates to improvements in albums for holding " photographic portraits, the object of which is to facilitate the " introduction and removal of said portrait cards from the frames " or cases forming the leaves or divisions of said albums. At " the present time the cards are introduced at an opening of the " same width as the card, made at the lower part of the leaf, " which being made in the thickness of the card leaves a project- " ing edge, and renders the picture difficult of removal. I " obviate this disadvantage by covering the projecting edge with " a sheet of paper, which guides the picture card over the pro- " jection, and prevents its catching."

The Drawings show the ordinary arrangement at present in use as well as the improved arrangement.

[Printed, 6*d*. Drawing.]

A.D. 1861, November 1.—N° 2748.

SMITH, ANDREW.—(*Provisional protection only.*)—"An improved " combined book marker and paper cutter," to be manufactured by preference in what is known as "Tartan work." Two pieces of wood, shaped to the form of the intended article, and " decorated with the tartan pattern," are riveted to a spring which is placed between them. " A bent blade spring is by preference " used for the purpose, its open extremities extending towards " the backward end of the handle, and so serving to keep the end " of the upper piece elevated whilst the front part presses down " upon the upper surface of the paper cutter." The two pieces are riveted to the spring near the front part or bend of the metal, so that " when the backward end of the clip piece is depressed " by the thumb, the front end is raised to admit of its being " passed over one or more leaves of a book." The article may be made in ivory, pearl, tortoiseshell, or other material, or in either combined with tartan work.

[Printed, 4*d.* No Drawings.]

A.D. 1861, November 5.—N° 2781. (* *)

BOURQUIN, JOHN PETER.—(*Provisional protection only.*)— " Improvements in ornamenting the covers of photographic " albums, books, writing-cases, and other like articles."

The invention consists in applying thereto decorations resembling inlaid woods, known as marqueterie and wood mosaics, by printing upon veneer mosaics and other designs, and thereby imitating differently coloured woods arranged in patterns. " Having selected, say, a veneer of white wood, I attach the same " to cloth by cement before printing, to protect from breaking " or splitting under the pressure to which it will be subjected. " The wood being damped is placed in the lithographic press to " receive the prepared design, which is then transferred thereto in " the same manner as coloured designs are applied to paper. " When printed with the requisite number of colours to complete " the pattern the wood is laid aside for the colours to harden, and " when this is accomplished the wood is polished and varnished, " and may then be applied to the book or other cover in the " form of a border, corner pieces, lines, panels, or even as an " entire covering for the lid or for the back, as may be thought " desirable."

[*Printed, 4d. No Drawings.*]

A.D. 1861, November 13.—N° 2860. (* *)

BROOMAN, RICHARD ARCHIBALD.—(*A communication from Auguste Marion.*)—" Improvements in albums for containing " photographic and other pictures."

The two parts which, when united form one sheet of the album are attached to a ziz-zag backing of parchment, in the recessed parts of the said backing, through certain hinge pieces; " the " intermediate folds " " of the backing render the sheets inde- " pendent of one another, and enable them to be fully opened " out without one sheet dragging on another." " The two " parts " " are formed of two leaves," " hollowed out at the " centre to allow of the pictures being seen." " An incision " " rounded at its two ends, allows of the insertion of the picture, " and to avoid any stop or impediment to its withdrawal, the " lower end of a sheet " " which does not extend beyond the " edge of the frame, is attached to the tongue formed by the " incision." " Intermediate pieces of thin cordboard " " are " pasted or glued behind the leaves " " and the sheet," " thus " the finished sheet shows on each side a central opening for " viewing the pictures, with a slot for their introduction and " withdrawal." The edges of the hinge pieces are inserted between the intermediate pieces and the leaves, " and the backs " of the hinge pieces are sewn to the backing." " The threads " which secure each sheet of the album pass through the middle " of the hinge pieces, and when the two parts " " have been " fixed together the sewing is entirely hidden."

Printed, 10*d*. Drawing.]

A.D. 1861, November 27.—N° 2990.

CLARK, WILLIAM.—(*A communication from Joseph Schoen-* " *feld.*)—Improvements in the clasps or fastenings of purses, " bags, portfolios, tobacco pouches, & other like articles." The fastening consists of two catches which are placed one at each side of the frame near the hinge. The catches are composed each of a spring, fixed to one side of the frame and carrying " a small " inclined tumbler or catch," and of a bolt on each side opposite the tumbler; the bolt enters and holds to the tumbler when closing the frame. From each hinge projects a headed pin which passes through the axis of rotation and gets upon a spring, and round one axis is a spring " the two ends of which lodge in the

" interior of said frames and act so as to separate the one from " the other when unlocked." Pressure on the pin heads disengages the bolts from the catches, and the spring opens the frame "automatically" and prevents its self-fastening again.

[Printed, 6*d*. Drawing.]

A.D. 1861, December 4.—N° 3044. (* *)

BROOMAN, Richard Archibald.—(*A communication from Henry Strauss.*)—" Improvements in albums or books for contain-" ing and showing photographic and other pictures, and in slides " for the same."

"I take two of such sheets of paper with apertures in the " centre as are generally used in albums for showing photo-" graphic pictures, and unite them at three sides, after having " interposed a strip or strips of thick paper, cardboard, or the " like, equal or nearly so to the thickness of two of the pictures " to be contained and shewn. Thus the sheets will be united at " their edges on three sides to interposed filling pieces, and one " side will be left open for the insertion of the slide hereafter " described."

"The slides consist of a frame of cardboard or thick paper " equal in thickness to the interposed filling pieces. To one " edge of the frame or to the sides a sheet of gelatine, talc, or " other transparent material is attached; the space left in the " frame is calculated to receive two pictures back to back. After " being inserted in the space in the frame, each picture is entirely " covered by the gelatine or talc. The slide is formed with angle " pieces, and when inserted between the sheets of paper, the outer " edge of the slide fills up the space between the unclosed edges " of the two sheets."

The drawings show a card placed in the frame which " may be " used as a support to the pictures which are placed back to " back," one on each side of the card.

[Printed, 6*d*. Drawing.]

A.D. 1861, December 11.—N° 3105. (* *)

SCHLOSS, Joseph.—(*A communication from Simeon Schloss.*)—(*Provisional protection only.*) "An improvement in forming " the leaves of albums, and books for containing photographic " portraits and views."

"In the leaves as now made, the pictures are introduced into, " and when required removed from each leaf through an aperture " or space made or left at the side, top, or bottom, or through a " slit made above the top or under the bottom of the window, or " space, made for showing the picture. Now in this invention " neither such space, aperture, nor slit is made, but the leaves " are so put together that the pictures are introduced and removed " through the windows themselves.

"The invention consists in interposing between two sheets of " paper with windows cut therein, and which are intended to form " the front and back of a leaf of the album, or book, one or two " thicknesses of stout paper, equal in size to the window sheets, " but without any parts removed, then in fixing along the edge " of these interposed pieces of paper, and on both sides thereof, a " frame or beading of card, or millboard, or other suitable material " extending inwards from the edge, only about a quarter of an " inch more or less. The two first named sheets of paper are " next attached to the cardboard frames, and the leaf for the " album or book is complete. The photographic picture is introduced cornerwise through the window, and is worked into " position by pressure of the finger."

[Printed, 4*d*. No Drawings.]

1862.

A.D. 1862, January 13.—N° 95. (* *)

SCHOTTLANDER, Henry.—(*Provisional protection only.*)— " Improvements in albums for containing photographic and other " pictures."

"My invention consists in so forming the leaves of albums " that the picture or pictures, together with part of the leaf holding the same, may be placed and held at an inclination so as to " obtain the most suitable light for viewing the pictures."

"I apply on each side of every leaf, or on one side only, a frame " for holding one or two pictures, and unite it at one side or end " only, and I make a tongue or frame in or on the folding frame. " When the album is closed, or when the leaves and pictures are " in their ordinary position, the holding frames, pictures, and

" tongues do not protrude beyond the thickness of the leaves. " When the album is opened, and any picture is to be viewed, the " holding frame is raised and the tongue or back frame is pro- " truded outwards and the frame resting partly upon it is main- " tained inclined. If desired, pictures may be held in the leaves " which are covered by the holding frames, and which can only " be seen when such frames are raised."

"Again, instead of the tongue or supporting frame before " mentioned, I sometimes form the support by hinging a piece of " cardboard, or other suitable material to the top of the holding " frame which is pushed outwards for supporting the holding " frame, and which is folded inwards and under the holding " frame when the pictures are not required to be raised to be " viewed."

[Printed, 4*d.* No Drawings.]

A.D. 1862, January 23.—N° 180.

SERVICE, James Gowans.—(*Provisional protection only.*)— " Improvements in machinery or apparatus for cutting and scoring " pasteboard and other similar material." The machinery is adapted for cutting pasteboard for bookbinders and for box-making, and the description given refers especially to the latter object. Two rollers are mounted in open-end standards, and the lower roller " carries to and fro a table to which a reciprocating " traverse is imparted." In the table are fitted knives, which are adjustable as regards height for either cutting or scoring, and they " may be arranged to cut one or more boxes at one opera- " tion from the sheet of pasteboard." The upper roller is adjustable so as to regulate its pressure, and its surface " is covered " with sheet lead or an amalgam of that metal so as not to injure " the edges of the knives." When the table " is run out to the " end of its traverse, a sheet of pasteboard is upon the knives, " and the table is traversed under the upper roller," the pressure of which causes the knives to cut the pasteboard to the required size and to cut out the corner pieces, whilst the middle part is scored to facilitate the bending-up to form the sides and ends of a box. " When the table is traversed forward, its extremity " comes in contact with a lever, which motion actuates a plate " having a number of vertical pins projecting up from its face; " this plate ascends sufficiently to allow of the pins coming in " *contact with* the pasteboard, so as to release the several pieces

" from the recesses formed in the table by the arrangement of " the knives." As the table traverses back again, a brush or other equivalent "sweeps the pasteboard into a box beneath," and the pieces "for forming the boxes and lids are subsequently " separated from the corners or waste." The machine "may be " arranged to take on a sheet of pasteboard at each side of the " rollers, suitable provision being made for clearing the cut " pasteboard and putting on a new sheet at each traverse of the " table." Or the knives "may be fitted in one of the rollers, " and the pasteboard cut as it is passed between them."

[Printed, 4*d*. No Drawings.]

A.D. 1862, January 31.—N° 265.

STEVENS, Thomas.—(*Provisional protection not allowed.*)— " Improvements in the manufacture of book markers." The markers are manufactured "by machinery for weaving ribbons," and figures, designs, and mottoes of various descriptions and colours are produced on them; they may be composed of a variety of materials and may be of any suitable length, and the ends may be left plain or be ornamented with fringes, tassels, and the like. " The whole surface of each marker comprises by preference one " special design or pattern with various emblems."

[Printed, 4*d*. No Drawings.]

A.D. 1862, February 7.—N° 322. (* *)

BROOMAN, Richard Archibald.—(*A communication from Louis François Saugrin.*)—" Improvements in stereoscopic albums, " books, and cases."

"This invention consists in combining a stereoscope with an " album case or book in such manner that both may be folded " and occupy a small space."

The stereoscopic case contains the photographic pictures, and its hinged cover has a lock for securing the case when closed. By means of flaps united to a hinge, " the rod of which is sur- " rounded by an adjusting screw" or helical spring, on opening the case the instrument is placed ready for observation. The base of the stereoscope "forms an ordinary slide;" the sides are united by flexible joints, so that they may fold easily. The top plate carries the glasses, which sink down with the sides when the case is closed. This stereoscope may be fitted in the lid of any book or album, or "in a slot in each intermediate leaf." The pictures are all placed one on another in the case on a frame, or moveable bottom plate, which rests on helical springs; the pictures are thus raised within the focus of the stereoscope; as they are done with, an axis with a disc at each end and carrying two rollers causes the pictures to fall into a drawer. So soon as the upper picture has thus slidden away, the spring frame raises the succeeding picture.

When the stereoscope is applied to an album, the slight projection which forms the stereoscope when folded, lies in a recess formed in the cover; a "compass joint" "maintains the opening "of the album at the desired inclination."

In "a stereoscopic pocket book," the bottom is made in two parts, and a vertical partition "acts as a support to the apparatus "when open." When the instrument has been partially opened, spring hinges wholly place the parts ready for use.

[Printed, 8*d*. Drawing.]

A.D. 1862, February 28.—N° 547.

RATLIFF, John Cleophas.—"Improvements in the covers "or bindings for books and blotting cases." The improvements consist in making, "by the use of woven figured fabrics either of "silk, cotton, wool, hair, or other fibrous material," covers bearing a suitable design and "typical of the contents" of the book. The design or pattern for the sides and back is woven in one or more pieces in a jacquard loom, and the fabric may then be used in place of leather or other substance usually employed in bookbinding. If several copies of the same pattern be required, they may be woven in succession in one piece and be afterwards subdivided. Ornamental patterns may also be woven "and used for "the inside or ends of covers or boards of books or blotting "cases." The process of binding is the same as when plain silk or other woven fabric is used, and the edges and corners may be protected from injury by metal or other hard material.

[Printed, 4*d*. No Drawings.]

A.D. 1862, March 7.—N° 618.

COATHUPE, Henry Bentinck.—(*Provisional protection only.*) —"Improvements in the manufacture of clips, hooks, and other "*such like* fastenings." Among the "unlimited" purposes to which these clips may be applied bookbinding is mentioned, but the method of application thereto is not described. The clips are cut or stamped out of sheet metal "in the form of the letters " H, T, Y, or X, or other such like forms;" the portions " separated from each other (or a series of such pieces in com- " bination)" are folded or bent in such manner that one end is formed into a spike or nail, whilst the other can be employed to clip the article requiring to be held. "These clips may be made " of various sizes and substances," and it is stated that their strength is " superior to cast and equal (or nearly so) to wrought " metal fastenings." Mention is made of Letters Patent which were granted to Mr. Coathupe on August 24th, 1861, No. 2118, entitled Improvements in time-keepers.

[Printed, 4*d*. No Drawings.]

A.D. 1862, March 8.—N° 636.

GEBHARDT, John James Henry.—(*A communication from Herr Kugler.*)—(*Provisional protection only.*)—" An improved " fastening for albums, and other books, bags, reticules, and " other articles." On the inner side of a plate attached to one side or edge of the article to be fastened, is secured a sliding piece, wherein are fitted spiral or other springs in grooves or recesses, " and on the inner surface of the outer plate are studs, stops, or " abutments so placed that the springs may abut against them at " one end." The sliding piece carries a knob or finger piece " presenting itself on the outer side of the first-named plate " through a slot or opening" in which it or its shank pin works. The edges of the outer plate are by preference bent inward to form guides for the sliding piece, which carries or is formed with a hook or catch intended to engage with an eye, staple, or its equivalent on the opposite side or edge of the article. " The " fastening may be somewhat modified by using a single spring " (and stop) instead of two or more, and also by having the " travelling plate outside instead of inside the other plate, and " the stop on the travelling, the spring on the other plate."

[Printed, 4*d*. No Drawings.]

A.D. 1862, March 11.—N° 660.

BAYNES, Henry.—(*Provisional protection only.*)—"An im- " provement in bankers' cheque books." This invention is designed "for the more efficient protection of bankers and their "customers against other than the proper or authorized persons "obtaining cheque books from banks." At the end or any other convenient part of the ordinary cheque book a leaf is inserted (with or without a corresponding counterfoil) on which is printed "a suitable form of order or request to the banker for a new "cheque book to be delivered to the bearer or otherwise, as may "be desired;" this order is to be "signed by the same party, "and in the same manner that a cheque from the customer would "be signed." The order leaf (and counterfoil if any) is to be numbered with the same number (progressive or otherwise) that the cheques in the book have borne, or it may be "marked in "any other convenient manner, in order that the banker may be "able to at once ascertain whether the order or request has come "direct from his customer."

[Printed, 4*d*. No Drawings.]

A.D. 1862, March 25.—N° 823.

SILBER, ALBERT MARCIUS.—(*A communication from Johann Georg Klein.*) — (*Provisional protection only.*)—"An improved "fastening for purses, pocket books, bags, and other articles." A guide plate is attached to a convenient part of the article to be fastened, and to it is connected "a catch plate capable of moving "or working to and fro." Two spiral springs are joined at one of their ends to the guide plate, and at their other ends to the catch plate, "being most conveniently connected to those plates "by bent parts of the latter being introduced into the ends of "the springs." The catch plate "has a bevelled, bent, or other-"wise formed part, intended to act as a catch or staple to retain "or engage a hook or equivalent contrivance which is attached "to another part of the article."

[Printed, 4*d*. No Drawings.]

A.D. 1862, April 2.—N° 926. (* *)

BROOMAN, RICHARD ARCHIBALD.— (*A communication from Eugene Recordon.*) — (*Provisional protection only.*) — "Improve-"ments in memorandum, pocket, and other books, and in pencil "and penholders to be used therewith." The first part of this invention consists in making the covers of memorandum books, &c., of slate or other substance capable of receiving writing. One cover is a sheet of slate held on three sides in a metal frame carrying hooked gudgeons. To the back of the cover is attached a metal band, beneath which the fourth side is slid. The ends of the band are bent to form slides into which the gudgeons take. The other cover, of any material, has in the centre a metal frame in which a slate is fixed; or both covers may be made alike. An ink holder is screwed on at one end, and the penholder, which contains a box for leads, acts as a stopper. A socket inside the cover is screw-threaded to receive a lead or slate pencil.

The second part relates to the construction of a holder for lead and slate pencil. Within an outer case, which is partially slotted, are two tubes (one for lead, screw-threaded, the other for slate), each terminating in a split conical nozzle. A collared tube is screwed on the bottom of the lead tube; it has a rectilinear motion imparted to it by means of a stud which slides in the slot. To the collar is fitted a tube screw-threaded externally, and having two propelling rods, one at each extremity; to one end of this tube the slate tube is screwed. The propellers are worked by turning the nozzle of the lead tube.

[Printed, 6*d.* Drawing.]

A.D. 1862, April 8.—N° 996. (* *)

CARTER, CHARLES PEMBERTON.—(*Provisional protection only*).—"An instrument for inserting photographic or other "pictures into or removing them from between the 'mounts' "of photographic albums or other flat spaces, into which the "fingers cannot be inserted."

The instrument resembles a pair of pliers, "but with the jaws "gradually thinned down to an edge at their extremity, and more "or less widened out." The inner surface of the lower jaw is roughened, "whilst the corresponding surface of the upper jaw is "made quite smooth." When quite closed, these surfaces "meet "only at their extremity." "The ends of the jaws being made "quite thin they can be inserted with facility into the narrow "space of the mount, together with the picture, so as to adjust it "accurately in its position, or they can be easily inserted between "the surfaces of the picture and the 'mount' for the purpose of "removing the former from between the latter. The handles of "this instrument may be formed straight, and in a line with the "jaws, or, by preference, I bend them, so as to be at an angle "with the same for more convenient manipulation, or they may

" be first bent up at an angle, and the extremities bent down " again parallel with the jaws. I sometimes also introduce a " spring between the handles to press them open when let go by " the hand; and in some cases I form one of the jaws with a " sharp knife-edge for cutting the pictures; or I form the " handles close to the hinge as scissor blades for the same pur- " pose. This instrument may be formed of any suitable material, " and it may be employed for inserting pictures into any other " flat spaces besides those in the 'mounts' of photographic " albums."

[Printed, 4*d*. No Drawings.]

A.D. 1862, May 10.—N° 1403. (* *)

CLARK, WILLIAM.—(*A communication from Jean Louis Abeilhou.*) —" The application of a vegetable fibre alone or in combination " with other matters in the manufacture of felted and other fabrics, " also a substitute for flock or powdered wool, and as a material " for padding or stuffing, and for other useful purposes." The " vegetable fibre " mentioned is the down of "aquatic plants " technically called 'typha,' and commonly known as reeds or " bulrushes." When the down is sufficiently dry, it is separated from the seeds, worked until it possesses the fineness of silk, mixed with one-third or half the quantity of hare's or rabbit's, or it may be beaver's hair, and felted. It may then be used for all kinds of head dresses, " civil, ecclesiastic, and military." It may be employed in weaving by mixing it with silk, wool, cotton, flax, or other fibre; and for several purposes when combined with india-rubber or similar matter.

The " detritus " may be used " in binding and making books " and registers, and for cases of all kinds."

[Printed, 4*d*. No Drawings.]

A.D. 1862, May 17.—N° 1500.

HOGG, JAMES, junior. — " Improvements in book covers," whereby a variety of colours and patterns may be obtained. The cloth is perforated either in the piece, or after it is cut to the size of the required book cover, " in a manner similar to perforated " cardboard;" it may be perforated throughout, or certain parts may be left for the impression of stamps, &c. One or more layers of colored or gilt paper or cloth are affixed to the millboard previous to applying the perforated cloth. Or the colored or gilt substance may be affixed to the cloth after perforation instead of to the millboard. Perforations are made " in the most clean and " perfect manner " by fastening " a stiff well-made cardboard " to the cloth before placing it in the perforating machine; the two-fold fabric is then perforated, colored or gilt paper or cloth is fixed behind it, and the addition of "a solid millboard and " lining " completes the cover.

[Printed, 4d. No Drawings.]

A.D. 1862, June 7.—N° 1711.

HATTON, George Darbyshire.—" Improvements in presses " for the use of bookbinders, printers, stationers, and others. The press is composed of, (1), two standards, supported each on a broad foot, attached at their summit by a crossbeam, and held firmly at the bottom by tie rods; (2), a screw, working through the beam and carrying at top a lever and balls of considerable power, and at bottom " a plate which forms the upper flat of the press;" and (3), a loose plate of similar dimensions to the upper one. The sides of the standards are shouldered or grooved at distances of about three inches apart, commencing from near the base, and meeting the upper plate " at the greatest fall of the screw." Thus the lower plate can be " shifted to one or other pair of supports " according to the thickness of substance to be pressed."

[Printed, 10d. Drawing.]

A.D. 1862, July 15.—N° 2035. (* *)

GHISLIN, Thomas Goulston.—" Improvements in the treat-" ment or preparation of British and foreign algæ, and the appli-" cation of the same to various branches of the arts and manu-" factures." The seaweed " should be first steeped in dilute " sulphuric acid for about three hours " and be then dried so as to become hard, " after which it is to be ground up or reduced " to an almost impalpable powder." A strong glutinous solution is to be prepared by well mixing and boiling together ten per cent. of glue dissolved in water, five per cent. of gutta percha, and two and a half per cent. of india-rubber dissolved in naphtha, or other suitable solvent of these gums, and ten per cent. of coal tar. Five per cent. of sulphur, five per cent. of resin, two and a half per cent. of alum, and, say, sixty per cent. of the seaweed (all in a dry and pulverised state) are to be " carefully and inti-

" mately " mixed in the boiling compound; and " when the " ingredients have been well incorporated the mass must be " submitted to heat in a suitable oven, taking care that the " mixture be not heated above three hundred degrees Fahrenheit." The mass will then be brought into a plastic state, and may be moulded, embossed, pressed, stamped, or otherwise formed into any desired shape, and thereby adapted, when it becomes hard, for various useful ornamental purposes.

A cheaper article is produced by mixing fifteen per cent. of glue dissolved in water with fifteen per cent. of coal tar, and intimately incorporating therewith seventy per cent. of the pulverised seaweed; the compound is to be baked as above mentioned, the heat not exceeding three hundred degrees. " This substance " when cold and dry will become hard and form a good and cheap " substitute for ebony." A surface resembling ivory may be obtained by boiling the substance " in a solution composed of " caustic lime and water," " and afterwards steeping it " in dilute sulphurous acid for several hours or " even days ;" it may then be submitted to chlorine gas or chloride of lime until it becomes bleached, and it may be necessary " to repeat the process more " than once." If thin flat sheets with a surface resembling ivory be required, " they may also be produced from any of the " tubular algæ or seaweeds by splitting up the tubes and then " cleaning and preparing their surfaces so that they may be used " for the intended purpose when properly bleached." The surface of the prepared material may be coated with metal by the " electro-galvanic process " or it may be coloured or otherwise ornamented; in the former case, however, it " must be prepared " by being coated with plumbago or other material which will " render the surface a conductor of electricity." Again boiling " in a solution of sulphuric acid " and steeping " in a dilute " solution of chloride of zinc," and then washing " in a dilute " solution of sulphuric acid," will harden the surfaces and bodies of some of the before-named substances. Such substances the patentee proposes to call " laminite or laminarian stag horn," adding, that they may be cut, shaped, pressed, carved, or bent into various shapes so that they may be used for most of the purposes for which horn of various kinds has heretofore been used in the arts, and also for many purposes for which hard wood *and substances*, such as ebony and ivory, have been employed.

[Printed, 4d. No Drawings.]

A.D. 1862, August 9.—N° 2232.

GEBHARDT, John James Henry.—(*A communication from Edward Posen.*)—" An improved fastening for purses, pocket " books, needle books, ladies' companions, instrument cases, and " other similar articles." That part of the fastening which is fixed to the body of the article is composed principally of two plates and a spring. To the under side of the lower plate (the one fixed to the article) is fastened one end of a spring which is bent upward at the other end, where it is slotted; the spring works in an opening in the plate. The upper plate also is slotted, but the slots " do not quite coincide;" and this plate is formed " with a projecting part or tooth which reduces the aperture " through the two slots. A stay prevents the contents of the article "from obstructing the depression of the spring," and also prevents the spring from being too much depressed; and a knob fixed to the spring projects through the opening in the lower plate and a hole in the upper one. The other part of the fastening consists of a catch fixed to a plate which is secured to the flap of the article. The tooth and the arrangement of the slots with respect to each other will prevent the catch from escaping from the spring until downward pressure is applied to the knob. Sometimes the spring and a slotted tongue are both attached to the under plate, the spring being " fitted to the plate under the " tongue," and the knob " being hinged to the bent up sides of " the plate;" the action "is as before described;" the knob depresses both tongue and spring; and on removing pressure the spring forces the tongue upward so that its slot may engage the catch.

[Printed, 8*d*. Drawing.]

A.D. 1862, September 6.—N° 2467.

RICHARDS, William Antil.—" An improved fastening for " purses, pocket books, bags, cigar cases, books, wearing apparel, " jewellery, and other articles." One part of this fastening consists of a stud or pin, notched or recessed at the sides, and mounted on an ornamental plate which is fixed to the body of the article. The other part, which is pinned to the flap, is composed of three plates and bow springs; of these plates the bottom and middle ones are one on each side of the flap, the material between them being cut away. The top plate slides on the middle one, and on its under side is a hollow projecting piece, having in it a slot keyhole-shaped. The projecting piece is formed with lugs at its sides; it passes through an opening in the middle plate, and is prevented "from slipping away," or "unduly out of place," by springs on the plate, which press against the lugs. The springs are kept in place by the pins which connect the plates, by the edge of the material of the article, and by the "bent up parts" of the projection. The bottom plate has in it an opening of the same size as the wider portion of the keyhole slot, each being sufficient for the admission of the stud. To close the fastening the sliding plate is pushed back until the opening and slot coincide; the stud is introduced, and the sliding plate is pushed forward until the edges of the narrow portion of the slot enter the recesses in the stud. The bottom plate may be dispensed with by making in the material an orifice for the passage of the stud; the orifice may be protected by an eyelet or rim. The fastening may be rendered "more expansible" by forming two, three, or more keyhole slots in the projecting piece, and as many openings in the bottom plate. A knob or other holder may be added to the sliding plate.

[Printed, 8*d*. Drawing.]

A.D. 1862, September 15.—N° 2529. (* *)

CHANT, Edward George.—"Improvements in self-binding "portfolios or holders for newspapers, music, documents, letters, "and other papers, or for woven or other fabrics or articles which "it may be desirable to bind or hold together." The papers, &c. are secured by means of strings (or their equivalents), metal loops, and "spring compensations," which "compensate for the varying "thickness or quantity of the articles to be bound or held "together." At the edge of each cover (next to the back) are metal loops, and on one side of the cover as many spring compensations, consisting each of "an endless or double band of "india-rubber webbing" with a metal loop at its near end. To each loop on the cover edge (on the side opposite to the spring) an endless or double string is fastened by a slip knot; but before the string is made endless it is passed through an eye drilled "at "or near the middle" of a tag or needle, which is "made flat "with grooves at both sides extending from the ends farthest "*from the point* thereof to half the length, that is, to the said

" eye," in order to allow the string to fit therein. The papers, &c. are to be pierced through by the tags, which are then to be passed through the loops on the opposite cover edge into the loops on the springs. The spring loops are of such shape that the tags cannot be disengaged from them " without intentional " movement." Instead of fastening one end of the string to a loop there may be a tag at each end, attachable in the same manner to a similar spring on the other cover side, so that " double spring compensation will be obtained."

[Printed, 6*d*. Drawing.]

A.D. 1862, September 20.—N° 2579. (* *)

FORESTIER, PIERRE LOUIS.—" Improvements in photographic " albums."

" Cartes or portraits are surrounded by a bevil edged border " having the appearance of a frame, and ornamented in any " suitable manner."

" To this end, I commence by cutting in thin cardboard or " strong paper of the required dimensions an opening, corresponding with the outline of the proof to be framed, and ornamented " or left plain at will. Over this first sheet I paste a second " formed of cardboard, corresponding in thickness with the depth " of bevil required, and having a centre opening somewhat larger " than the first. Over this I apply a third sheet of thin card, " with a smaller opening than the preceding provided with an " ornamental border, from which the bevil is formed by pressure " as in ordinary passe-partouts. Finally, I apply, when necessary, " a fourth sheet formed of Bristol board or other paper, the opening of which precisely corresponds with the outline of the bevil " edge, and which may be gaufered or otherwise ornamented at " will. To form a double faced leaf, from each pair of single " frames completed as above, I glue them back to back, after " interposing at the centre two thicknesses of cardboard, which " represent the space to be occupied by the photographic proofs. " The slideway for the introduction of the proofs may be reserved " at any suitable point, top, bottom, or side. The leaves, prepared as above, are bound into albums in the ordinary way, the " form, dimensions, and decorative details being varied according " to circumstances."

[Printed, 4*d*. No Drawings.]

A.D. 1862, October 25.—N° 2882. (* *)

BOURQUIN, John Peter. — (*Provisional protection only.*) — "An improved manufacture of mount for photographic and other "albums, miniatures, and other pictures."

"The object of this invention is to manufacture mounts that "will not soil with the touch, and which when dirty may be "readily cleaned without injury thereto; this I propose to effect by "substituting veneers of choice woods for the cardboard facings "of mounts, which veneer facings will admit of being French "polished, and of receiving various kinds of ornamentation. In "making album mounts I first back leaves of veneer with paper "or cloth, and then cut out the openings for the pictures; I next "place two leaves back to back, so that the openings in each "shall correspond, and apply cardboard filling at certain parts "so as to leave space between the leaves of veneer for the "insertion of the photographic or other pictures, as is well "understood; then by glue or other cement applied to the "filling pieces and leaves where in contact therewith I connect "the leaves of veneer together. When preparing mounts for "passe-partouts and miniatures as well as albums mounts, I "propose to ornament the mounts either by guilding, painting, "or printing, preferring to apply mosaic printing which I have "already adapted to the ornamentation of book and album "covers."

[Printed, 4*d.* No Drawings.]

A.D. 1862, November 26.—N° 3173. (* *)

AUSTIN, William. — (*Provisional protection only.*) — "An "improved material for the manufacture of cartridge cases, "applicable also for tubing and various other useful purposes." The material consists of a woven fabric coated with any adhesive or waterproof adhesive solution, covered with a layer of paper on one or both sides, and then subjected to pressure, either by rolling, or by flat or other pressure, hot or cold. Or a paper pulp, waterproofed or not, may be spread on each side of the fabric, and subjected to hot or cold pressure. Instead of a woven fabric fibres of various descriptions may be intermixed with pulp *or laid between* sheets of paper, and treated with waterproof solution. To produce a thick substance several layers may be pressed together; in all cases the exterior surface may be lacquered or varnished.

The material is "suitable for being printed upon, for book "covers," &c.

[Printed, 4*d*. No Drawings.]

A.D. 1862, December 16.—N° 3358.

LEMON, JOSEPH JAMES.—"Improvements in book trays or "holders." The improvements consist in the employment of levers, springs, and guide rods, by means of which the slides can be opened for the insertion or removal of books. For operating on double slides the levers are shaped somewhat like a pair of scissors, and are jointed by a pin which passes through a side or edge of the tray, their handles projecting outside the tray. Attached to the inner ends of the levers are rods, which work in slots in the under side of the tray; the rods are connected to the sides by pins or screws, "thereby forming a complete communication between the slides and the handles of the levers." One of the rods "is curved to allow of the other passing it more freely "than it could do if they were both straight. In order to bring the slides back after the removal or replacement of a book, springs are attached to the levers from two corners of the tray. Or "one "powerful spring between the handles of said levers outside the "tray" will produce the same result, as the extension of the slides is caused by compressing the handles. Sometimes springs are entirely dispensed with.

For a single slide only one lever with one spring attached to it is required.

[Printed, 8*d*. Drawing.]

1863.

A.D. 1863, February 12.—N° 383.

PHILLIPS, SAMUEL HENRY.—(*Provisional protection only.*)— "An improved fastening for purses, portmonnaies, pocket-books, "bags, reticules, and such-like purposes." One part of this fastening is constructed as follows:—In "a flattened tube of thin "sheet iron or other metal" a slip of brass or other metal is placed, forming a slide, and having in it a slot through which a pin projects, "being inserted and fixed through the sides of the "tube." The slide "projects beyond one end of the tube and "extends somewhat below the middle portion thereof, and then "compresses a small spiral spring fixed near the opposite end of "the tube." The middle of the tube is pierced with an aperture, "half of which is closed by the slide, and the remaining half "exposed by reason of a rectangular space cut in the slide." This part is fixed "within the front lining" of the article, and a lock plate is fixed outside, "a suitable aperture therein being "arranged to expose the aperture in the tube within." The other part is a projecting stud or pin "having a notch cut "therein on one side, and its extremity presenting an angular "or wedge-shaped surface." When the stud is pressed into the lock-plate, "it will enter the orifice in the tube, and coming in "contact with the side of the aperture in the slide will force it "towards the spring, the slide then running back into the "notch" and fastening the stud. To release the stud "it is "merely necessary to apply pressure to each end of the tube and "slide by the thumb and finger."

[Printed, 4*d*. No Drawings.]

A.D. 1863, February 25.—N° 532.

INGLIS, JAMES.—"Improvements in machinery or apparatus "for folding paper and other fabrics or materials." This invention is partially based upon one for which Letters Patent were granted to James Black on or about November 7th, 1850, No. 13,315. "The present improved machine is contained upon "and within an open rectangular framework," and the principal parts are enclosed by a front plate, open-work end plates, and folding doors at the back. On the upper part of this enclosed space are arranged "a slightly sloping feedboard or bank" (opposite to which the attendant stands) and an inclined platform, "set at a considerable angle with the horizontal line," and having in it three parallel longitudinal slots, the two outside ones for the traverse of grippers, "which come forward and seize the "sheet by its two opposite edges," return, and convey it down the platform, the middle one "for the passage thro' of the paper "*during the primary* fold." Directly over the middle slot is a serrated folding knife, which presses the sheet (the grippers having relaxed their hold) through the slot. The folded sheet is passed beneath the platform, and is in readiness for being refolded by knives arranged at right angles to each other in the framing beneath. "Suitable guides or register marks are provided for "the due set of the sheet for the gripper action." The main shaft has its bearings supported in three brackets, which are bolted to the front plate; it is actuated "from a contiguous "prime mover, an endless belt." There is a very detailed description of the connection of the grippers with the main shaft by means of eccentrics, connecting rods, and levers, of their composition, of their action, and of adjustable stops "to suit the "particular size of the sheet;" also of the method of attaching and working the folding knives (three in number, but more may be added), of the passage of the sheet, and of its falling at length on to an inclined plane, down which it slides into a receiver. The receiver is made in the form of a drawer, divided by a vertical partition and having one of its sides open, so that when one compartment is filled the drawer may be partly pulled out and emptied without interrupting the work. There is described also a contrivance connected to the shaft for compressing the sheets as they "are fed into the receiver," likewise of a gauge "by means "of which the attendant is enabled to place the sheets to be "folded accurately in position ready for being seized by the "grippers."

[Printed, 1*s*. Drawing.]

A.D. 1863, February 26.—N° 540.

CAPELLO, Ange. — (*Provisional protection only.*) — "An im-"proved method of and apparatus for glazing morocco leather." The upper portion of the apparatus is composed of a horizontal piece of wood; it "pivots on two pins" and the main balance beam which is bolted to it. This beam consists of "a triangle **V** "and of a piece of wood placed perpendicularly, which may rise "and fall according to the requirements of the works between "the sides of the triangle." A piece of iron fixed to the lower part of the beam "fills in some measure the office of a connecting "rod producing the swinging motion."

The other portions are "the glazer and the sleeker, differing "from each other only in their lower part."

The glazer.—" The end of the main balance beam is furnished " at the bottom with two sheet-iron plates carrying two bearings, " in which rolls a pin carrying a glass, crystal, wooden, or other " roller, according to the leather and the nature of the work." This roller is " between two iron plates, which fix it to the pin by a " nut, and outside the plate which is fixed to the end of the main " balance a toothed wheel is fastened on the same pin." When the balance beam is pushed on one side, a catch prevents the wheel and the roller from turning; the latter drags along a board whereon the leather is laid, and glazes one strip; when the beam has arrived at the end of its journey, " and that by the motion of " another small beam, " the catch " flies on to the teeth of the " wheel, and the roller then runs on the leather without glazing " it." The board and the piece of wood at the top " must be " flexible;" the former can be raised or lowered by two wooden screws. "The lower part of the main balance is cut and held " near the other by a pivot; this section is set in two cheeks; a " bolt with nut holds a plate or rather a slide bolt, which facilitates " the changing of the roller."

The sleeker or smoother.—It is set in a groove or cheeks, between which it is pressed by a spring; it " pivots on a bolt," and "when the balance moves forward one part remains stiff and " causes the roller to rub and press on the leather in smoothing " it." When the balance moves back, " this part opens by the " aid of a spring, so that the glass roller remains lifted and no " longer touches the leather."

[Printed, 4*d*. No Drawings.]

A.D. 1863, February 26.—Nº 548.

TWILLEY, FREDERICK HENRY.—(*Provisional protection only.*) —" Improvements in book slides or holders." These slides are so constructed that they may be either extended or reduced, " dispensing entirely with all cross pieces;" they may be made single or double.

1. Single slides:—On a slab of wood, " and on the upper surface thereof, on each side," a narrow slip is fixed, having " the " two interior sides " grooved or rabbeted to allow a tongued slide to move therein and be kept in position. The outer end of the tongued slide has hinged to it a flap which may be shut down when not in use; the other end of the slab is provided with a *similar hinged flap.* " The moveable slide may be drawn out or

"extended to nearly double the length of the slab, or it may be "contracted so as to leave a very small space between the two "flaps." There is a rack "on the surface of the slab between "the grooved slips," and a catch or pawl "on the lower surface "of the tongued slide," in order that, when the flap is drawn out or pushed in, "its position may be maintained against the pres- "sure of the books."

Double slides:—A fixed hinged flap is placed in the middle of the slab and two moveable slide flaps are formed, one on each side thereof; they should be made "to run into each other "and so enable the flaps to be drawn close up to the fixed central "flap." The rack and catch or pawl may be employed with each slide.

A modification consists "of a single holder with both flaps "moveable." The sliding pieces should be of half the length of the slab; one should be formed as a tongue, and the other as a channelled slide, so that they may run one within the other. A button on the catch or pawl disengages it from the rack.

Sometimes metallic springs are used "to maintain the side sup- "ports in close proximity to the hooks within the slides;" these springs are to work either by tension or by compression. Or "a "helical clock spring or blind roller spring may be used with "equal advantage."

[Printed, 4*d*. No Drawings.]

A.D. 1863, March 26.—N° 792.

JOHNSON, William.—"Improvements in pocket books, "purses, wallets, and bill cases." This invention consists in constructing the articles in such manner "that the mouth or "entrance into the compartments therein shall be kept closed "until drawn open by the hand," thereby preventing the contents from falling out. The method adopted is "to attach one or more "metal clip springs at the base with arms rising up the sides of "the compartment, the mouth of which is to be kept closed." The arms may extend to the top of the sides, but "they need not "in all cases be carried so high."

[Printed, 8*d*. Drawing.]

A.D. 1863, April 28.—N° 1068.

MACDONALD, George Samuel.—(*Provisional protection only*.)—"Improvements in card cases," whereby the cards can be withdrawn without opening the case. The case is formed with a sliding lid or side for the insertion of the cards; a catch is connected to "the end of a pin sliding in a slot cut in a brass or "other metal plate riveted to the exterior of the sliding lid;" the outer end of the pin carries a button head which projects beyond the plate; and when the pin is pushed forward, "a card "is partly thrust out of the case between the moveable lid and "the body of the case." A spring, inserted underneath the plate, returns the pin to its position in the slot. In the interior and bottom of the case are "two flat springs, which act upon a "false or moveable bottom, on which the cards rest, and are "thereby kept up to the surface of the moveable slide, so that "the fore end of the top card shall always be opposite the opening of the case, and the opposite end of the card at the same "time abut against the catch."

[Printed, 4*d*. No Drawings.]

A.D. 1863, May 29.—N° 1356.

PATUREAU, François.—"Improvements in the manufacture "of cardboard or paper boxes or receptables." The boxes are made from two "cups or capsules," the one forming the sides and bottom, the other the cover. In the manufacture of the capsules there are employed a metal plunger fitted to any convenient form of press, and a matrix which "may consist simply "of a perforated plate;" the plunger is formed with "a small "shoulder or projecting collar" round it at a suitable height from its face, and with the edges of the face rounded "to prevent the cutting or tearing of the cardboard." A sheet of cardboard having been moistened is laid on the surface of the matrix, the plunger is brought down so as to mould the portion under it by forcing it into the hole of the matrix, and the collar "nips the "protruding portion of the cardboard" between it and the sharp edge of the matrix, and "cuts off the capsule evenly all round." By bringing a fresh portion of the sheet under the plunger and repeating the process, a second capsule will be moulded, and the one previously formed will be forced out into a receptacle beneath. A lining of cardboard is cemented round the interior of one capsule, and, projecting a convenient height above the rim, serves as a support to a second capsule, "which constitutes the lid." Cheaper boxes are made from two capsules of different sizes, the *larger fitting over* the smaller.

"In making receptacles for cigars and other merchandize "requiring a long or deep box," one capsule is cemented to one end of a cardboard tube, and a second is fitted as a cover to the other end; or a lining as above may be applied to one or both ends, and the capsules "will join up flush to the ends of the "tube."

[Printed, 8*d.* Drawing.]

A.D. 1863, June 9.—N° 1434.

MURRAY, JOHN.—(*Provisional protection only*).—"Improve"ments in clips or holders for inserting and fixing photographic "pictures in albums." This clip consists of two thin plates of metal or other material, "with a sufficient interval between to "receive and hold loosely the photographic picture." The plates are of considerable breadth, "of about half the whole breadth of "the picture;" they are "somewhat of a pointed spade-like "form, the principal and lower one being longer than the other;" they are also thinned at the point, "so as to afford easy access in "the slits of the album." The lower plate "is extended to a "convenient length to form a handle.

The clip may be made "of one piece, and of ivory, or other "suitable material."

[Printed, 4*d.* No Drawings.]

A.D. 1863, June 11.—N° 1455.

VAN TENAC, CHARLES LOUIS.—(*A communication from Emile Cauderon.*)—"A new or improved daily balance book, with move"able or sliding tickets or slips." The book is composed "of "tables with moveable tickets for the purpose of obtaining and "shewing daily an exact balance of the accounts;" it is "bound "like a common book, and can be made with any quantity of "tables that may be desired." One illustration shows "a table "with four vertical columns" at the right side, "placed sepa"rately two by two as regards the accounts;" the two inner ones are filled each "with one single ticket sliding from the top to the "bottom of the page inside the table, and intended to be removed "only once a month;" and the two outer ones are fitted with the same number of horizontal tickets as of names written in the page, including the total at the bottom. There are three columns at the left side; one "either for the numbers of the page of the

" ledgers, or for the current accounts book;" one "for a number " to be given to each account;" and one "for registering the " names and address for each account." It is found "that a " a book containing twenty-five names is most convenient." In another illustration horizontal tickets " are placed across the whole " breadth of the four columns;" and another shows a table " where there are only two columns with horizontal tickets." There is another illustration showing "a single sheet with " columns, intended to be annexed to the above-mentioned daily " balance book if required;" this "includes the twelve months " of the year," and two columns are allotted to each month; " it has also at the right of each name two special lines for the " numbers." The tables are made thus:—"Three sheets of " strong paper, thin cardboard, or any other suitable material, " are to be pasted together, the front or upper sheet being cut " out in such a manner as to allow vertical and horizontal slides, " in which the tickets are to be introduced, to fit in or fill up " the small frames or cuttings made at the right of each name." To make the whole as strong as possible the slides are trimmed with linen, parchment, or other substance.

[Printed, 1*s*. Drawings.]

A.D. 1863, July 25.—N° 1856.

JAMES, George Henry, JAMES, James Marshall, and JAMES, Josiah.—(*Provisional protection only.*) — "Improve- " ments in the manufacture of covers for purses, wallets, and " pocket books." The object of this invention is "to make a " cover that shall expand." To effect this the cover is made of two pieces; to the end of the one which forms the flap a piece of elastic web is attached; the pieces are then joined and fastened inside the article, "the part forming the back overlapping the " elastic material, thus leaving a pocket on the back," to which access can be had without opening the article. The backs "are " permitted to expand as they are filled by means of the elastic " material, while the interior pockets or receptacles are kept quite " tight." Instead of elastic web "a flat spring or some other " contrivance may be adopted;" and the spring instead of coming from the flap or top "may be applied to the bottom or " front."

[Printed, 4d. No Drawings.]

A.D. 1863, August 22.—N° 2085. (* *)

WATSON, Alfred.—" An improved method of and apparatus " for inserting pictures in and withdrawing them from photo- " graphic albums."

This invention "consists in forming and employing a card- " board or other suitable frame, in which the picture is first made " to slide, or is placed in such manner that the edges of the " picture or card carrying the picture are protected. This frame " with its picture is then slidden in through an aperture in one " of the sides or top and bottom of the compound leaf of the " album. The thickening border usually employed between every " two leaves is removed to allow of the frame and picture entering " without making the compound leaf thicker than is allowed for " by the thickening border."

The Drawings show one of the frames in which " the picture is " inserted at the top of the frame, the inner edges of the sides " of which are slit or made double " " to receive the side edges " of the picture. The frame with the picture is then slidden in " through an aperture in the bottom of the compound leaf of " the album." " I prefer to fill the blank frames in the leaves " of the album with pieces of cardboard of the same size as the " pictures, and which I remove before inserting the pictures. " Each frame is capable of holding two pictures placed back to " back."

[Printed, 8*d*. Drawing.]

A.D. 1863, August 24.—N° 2095.

CAPELLO, Ange.—" An improved method of and apparatus " for glazing morocco leather." The upper portion of the apparatus consists of a horizontal piece of wood pivoting on two pins, and a " main balance beam fixed to this piece by two bolts." This beam is composed of a V triangle and a vertical piece of wood, which is " susceptible of more or less elevation " in the triangle by means of grooves and nut bolts. A piece of iron fixed to the lower part of the vertical piece "fills in some measure the office " of a connecting rod producing the swinging motion," Thus far the apparatus is similar in the two parts called the glazer and the sleeker or smoother.

The glazer.—A piece of wood is let into the bottom of the vertical piece; it is provided with two sheet iron plates having bearings in which a pin rolls carrying a roller "of glass, crystal, "wood, or other suitable material, according to the leather and "the work." The roller is between plates which can fix it to the pin by a nut, and to the pin a toothed wheel is connected. When the beam is pushed one way a catch keeps the wheel and the roller from turning; the roller then drags along the board on which the leather is laid to be glazed, and "glazes one strip." When the beam has arrived at the end of its journey (which journey is caused by the motion of a "small balance beam" jointed to the connecting rod), the catch "jumps over the teeth "of the wheel," and the roller "runs over the leather without "glazing it." The board and the top piece of wood should be flexible; the board can be raised or lowered by two wooden screws. The wheel has its teeth so cut that, when the beam starts, the catch "enters about half an inch before resting against "the bottom of the tooth;" this makes the roller "rise on to "the skin before the action of glazing, which can only take place "with a fixed roller." The lower part of the beam "is cut and "held near the other by a pivot;" this section "is set in two "cheeks," and arranged to facilitate "the changing of the roller" when "the working is to be varied."

The sleeker.—The roller is set in cheeks, between which it is pressed by a nut bolt. The skin is laid on a slab which is supported on a bench by wedges at its extremities; these allow the slab to rise or fall, while mortises in the slab, and tenons in the bench prevent it from "moving to one side or the other." The beam "may come and go at a great speed, whereas for the glazer "a moderate speed is required;" the small balance beam and its arrangements are described in the Specification. The cut portion of the beam "remains rigid" when the beam moves one way, and the roller "rubs and presses the leather, giving it the necessary "smoothing;" at the end of its journey a spring opens the cut portion and raises the roller. A weaker spring prevents too great an opening, and a third spring "fixed against the wall of the "building or to a piece of wood," closes the opening.

"Other arrangements" will be found in the Specification.

[Printed, 10*d.* Drawing.]

A.D. 1863, October 20.—N° 2565.

MICHAELIS, JAMES. — (*Provisional protection only.*)—"Im-"*provements* in the manufacture of purses, pocket books, and

" wallets, and in the construction of double-action locks for the " same, and other similar purposes." This invention is described in its application to a purse, and it consists " in manufacturing a " purse of two separate compartments, and fastening the same " by means of a double-action lock." The lock is made in three pieces; inside the middle piece or body of the lock " is a bolt " working from the centre with the aid of two steel springs," and sliding both ways; and on the outside pieces " is a catch " which passes through a slot cut on each side of the centre piece " of the said bolt." The outside pieces " are fastened to the " outer ends of the cover of the purse and meet the body of the " lock which is fixed on the front or face of the purse in the " usual manner." The bolt " being in the centre of two mouth " holes and made to open either way," each compartment may be opened separately.

[Printed, 4*d*. No Drawings.]

A.D. 1863, October 28.—N° 2666.

BONNEVILLE, HENRI ADRIEN.—(*A communication from Paul Claparede.*)—(*Provisional protection only.*)—" An improvement in " clasps for portemonnaies, pocket books, bags, and other like " uses." The frame itself supplies the clasp or fastening; it is made in two parts, which are square at bottom, pin-jointed together, and shutting one into the other. The band of the outer part is slit a certain distance at the lower end, " so as to have a " certain spring;" and when the parts are separated the square end of the inner one presses on and against the slit portions; these forming springs tend to shut the parts, unless the parts are at right angles, when they remain open.

[Printed, 6*d*. Drawing.]

A.D. 1863, November 21.—N° 2928. (* *)

WRIGHT, CHARLES EDWARD.—(*Provisional protection only.*)—" Improvements in apparatus for clipping or binding together " letters, music, and other loose sheets." This invention consists in the combination of three parallel bars, two being connected and stretched at a distance from each other by two or more wire stretchers placed at their ends, and further apart than the length of the papers to be held; the third bar, in the same plane and between the other two, slides on the stretchers. In one of the fixed bars are sharpened pins, of less length than the distance between the bars by rather more than the substance of the sliding bar. Loose sheets are held by drawing the sliding bar off the pins, thrusting the points through the edges, and pushing the sliding bar back on them. This holder may be used alone, or fixed inside a covering of stiff or soft material. Instead of the stretchers being between the bars at the ends, they may be distributed throughout the length, "and form a sort of back against " which the edges of the papers are placed while being fixed on " the pins." For convenience of moving the sliding bar by hand, it is made somewhat larger than the others, and projecting at one end.

[Printed, 4*d*. No Drawings.]

1864.

A.D. 1864, January 23.—N° 197.

STEVENS, THOMAS.—(*Provisional protection only.*)—" An im" proved mode of ornamenting paper, cardboard, and other sur" faces with symbolical and other devices." Covers of books are included in "other surfaces." To produce the device a jacquard loom is employed, thereby obtaining in silk or other fibrous material "repeats" with speed and economy. The device is cut out in the form of a medallion, lozenge, or other figure; it is laid on the cover, and the edges are covered with a ring of leather or its equivalent. The ornamentation is completed by embossing a border round the device by means of a stamping press. To apply a device to paper or other substance, so much of the paper, &c. is to be stamped out as is to be occupied by the device, which is inserted at the back and fixed in place by backing it with paper; an embossed border is afterwards stamped on.

[Printed, 4*d*. No Drawings.]

A.D. 1864, February 22.—N° 441. (* *)

GEDGE, WILLIAM EDWARD.—(*A communication from Jules Abelous.*) — (*Provisional protection not allowed.*) — " A kind of " photographic album forming a new method of publicity, or " *photographic* and commercial propagator."

"This album will contain, firstly, photographic pictures either "of illustrious personages, artists, reproductions of ancient or "modern paintings, drawings, and engravings, carriages, horses, "objects of art, merchandise, shops, workshops, private houses, "public edifices, and establishments, factories, and new inven-"tions; secondly, inscriptions placed on the drawings or around "them on the margins behind and facing the photographs, which "will be pasted or otherwise secured in the album which will be "designated the photographic and commercial propagator. One "or more photographs may be placed on each leaf of the album; "these photographs may be square, round, oval, octagonal, "hexagonal, or triangular, at pleasure. The album to be of any "form which may be found suitable in folio, quarto, octavo, "12mo., or other of any desired thickness, and the binding to "vary in design and colour at pleasure."

[Printed, 4*d*. No Drawings.]

A.D. 1864, February 29.—N° 499.

HIBBERD, CHARLES.—(*Provisional protection only.*)—"An im-"proved memorandum book or diary." To make "a memo-"randum book for a week" a case or cover is folded "so as to "form a long and a short leaf," and within the cover sheets of paper or other writing material are inserted, each sheet or series of sheets "being gradually shorter" than the preceding, until the last is reduced "to about the same length as that of the short "leaf." On the longest sheet or series the first day of the week is printed or otherwise marked, the second day on the next longest, and so on down to the shortest. The same arrangement is adopted "for a diary for the month;" and "for a diary for various events, "as for instance horse races," the name of the race is substituted for the days of the week.

[Printed, 4*d*. No Drawings.]

A.D. 1864, April 28.—N° 1072.

GHISLIN, THOMAS GOULSTON.—"Improvements in the treat-"ment and application of seaweed." The patentee proposes to call the article obtained from a mixture of seaweed and other substances "algaeite," and to apply it to a great variety of purposes, amongst which he mentions book covers. He employs any of the common kinds of seaweed found on coasts, and having treated them in the manner described in the specification of letters patent granted to him on July 15th, 1862, No. 2035, dries them, and reduces them to an impalpable powder, or to a paste, "if " operated upon in a wet state." The powder or paste is incorporated with the following ingredients or some of them in any desired proportions:—" Gums, gum resins, including india-rubber, " gutta percha and substances of that class, resins natural or arti- " ficial, bituminous substances and the products of the same, " paraffin and oily or fat substances, together with fibrous mate- " rials, such as shearings of woollen cloth, cotton, and flax waste, " and such substances, also the silicates of potash and soda." Adjuncts for filling in and giving a body are "pulverized chalk, " talc, and other earthy matters, metallic oxides, gelatine, farina, " alum, tungstic acid, powdered charcoal, and other analogous " substances." The compound is sometimes hardened and made impermeable to water by steeping it in boiled oil, or any drying oil, or in a solution of gum or resin, or in any kind of varnish.

The mass "may be moulded, stamped, pressed, or rolled," and may be applied to "all purposes where leather has been or can be " employed."

[Printed, 4*d*. No Drawings.]

A.D. 1864, April 30.—N° 1093. (* *)

PRANG, Louis.—(*A communication from Lewis A. Roberts.*)—(*Provisional protection not allowed.*)—" Improvements in preparing " sheets of paper or cardboard for holding photographs and other " articles."

" This invention consists in stamping or otherwise making a " recess or recesses of about the depth and size of the photo- " graph or other article to be held in sheets of paper or card- " board, and in cutting or stamping a slit in each corner of each " recess; the slits are made either at the same time, or before or " after the recesses, and the corners of the photograph or other " article are to be held or inserted into the said slits. The sheets " of paper or cardboard so prepared may be used in the con- " struction of books for the preservation of photographs, cards, " pictures, or other articles, the recesses not only serving to " protect the photographs or other articles from injury, but also " to aid with the slits in keeping them in their places."

[*Printed*, 4*d*. No Drawings.]

A.D. 1864, May 3.—N° 1109.

BRADLEY, John Oldfield, and FIELDING, Reuben.—(*Provisional protection only.*)—" Improvements in 'counter-slip " 'note books.' " This invention "is designed to afford a more " perfect means of checking the accounts " of salesmen than note books hitherto used. "Each alternate leaf throughout the book " is printed with the usual bill heading and is perforated close to " the inner edge to facilitate its removal from the book." The intermediate leaves are without any printed heading (there may be one if preferred) and are perforated a short distance from the inner edge, "so as to leave a counter slip in the book when the " duplicate is torn out." The leaves are numbered progressively, " but in such a manner that each bill, its duplicate, and the " counter-slip shall bear the same number." The salesman makes out the bill, "placing a piece of black paper between the " bill and the duplicate," and writes the amount on the counter-slip. The bill is given to the customer, the duplicate to the cashier, and the counter-slip is left in the book, so that "the " salesman and cashier have a mutual check upon each other."

[Printed, 4*d*. No Drawings.]

A.D. 1864, May 26.—N° 1310.

BROWN, John Harcourt.—" Improvements in treating " animal substances for the manufacture of size, pulp, and pulpy matter, and converting the said pulp or pulpy matter into sheets, " slabs, blocks, thread, hollow or tubular articles, and such " other articles of commerce for which the said sheets, slabs, " blocks, threads, hollow or tubular articles may be applicable." Any skins or cuttings of skins "convertible into fibre " may be used; they are soaked in soft cold water until they are soft, when " the dirt, lime, and other foreign matter must be removed. They are next placed in a bath composed of one part of American potash (other alkaline substances may be used), three parts of unslaked lime, and thirty-five parts of water; the potash, lime, and water must be boiled and frequently stirred for one hour or more; when the lime is deposited, the liquor is drawn off, and the skins are immersed therein "at a temperature of 70 or 100 " degrees Fahrenheit;" this temperature is to be kept up " until " the epidermis can be removed by hard brushing " or other means. The skins are then washed in cold soft water, " and are

" then fit for conversion." If fibre is to be produced, they are " crushed or bruised by stampers, hammers, or any other " suitable machinery," and when crushed as thin as possible they are "submitted to a lukewarm bath composed of 100 parts " by measure of soft clean water and one part of sulphuric acid " of the ordinary strength," where they remain "until they " assume a jelly-like appearance." The liquor is then drained off, and they are submitted to a "clear bleaching liquor" until " the fibrous effects are produced." The last process is to wash the fibre in soft cold water "in which some spirit or carbonate of " ammonia is introduced to kill the bleach," when it is "in a fit " state to be made into sheets as substitutes for parchment, " vellum, bindings for books, or coverings for cases."

For bindings and case coverings "inferior skins or parts of " skin may be employed, and from ten to twenty per cent. of " inert matter may be introduced, and the usual coloring matters " employed in paper-making may be used." To give the material "the character of leather," it should "pass through a " trough conveniently placed in front of the drying cylinders, " containing a solution of tanning at a temperature of 70° " Fahrenheit," and in order to give it a softness, "through " another trough placed next to the first containing glycerine, " and through press rolls placed at the edge of each trough." The tannin and glycerine may be used in the engine while the " fibre is undergoing the beating process, or they may be employed " surfacially."

[Printed, 6*d*. No Drawings.]

A.D. 1864, June 3.—N° 1382.

WILLIAMS, Alfred Hamlyn.—"An improved fastening for " purses, pocket books, belts, and other articles." One part of this fastening consists of a spring and pin; the latter terminates at its upper end in a head, at its lower end in a flange, and the portion of the shank immediately above the flange forms a collar; the flange is of less diameter than the head, and the collar than the flange. Two plates are fixed one on each side of the flap, the one above being "dished or recessed on the under side," each having a central hole for the reception of the pin head, and part of the material of the flap between the plates being cut away. A *spiral spring* abuts at one end against the underside of the pin head (which is recessed to receive it) and at the other end against the lower plate. The pin is fitted in the plates "and is free to " be worked up and down in them." The other part of the fastening is a catch plate; it has in it an aperture consisting of a slot with a hole at each end; one hole, termed the mouth, is large enough for the flange to pass freely through; the other, termed the socket, is of just sufficient size to admit the collar, " which fits it truly;" the slot "is only broad enough to admit " the shank." A rim is formed on the under side of the catch plate, and the material of the article is cut away around it to afford space for the flange to work in. To close the parts the pin is pressed down through the mouth and slidden along the slot into the socket; removal of pressure allows the spring to force the pin upwards, thereby fixing the collar in the socket.

In a modification, the pin is made without a collar, and the socket is dispensed with. "Inclined protuberances" are formed on the underside of the catch plate, one on each side of the slot; these prevent the pin "from slipping back," as the flange cannot clear them until the pin is again depressed.

[Printed, 8*d*. Drawing.]

A.D. 1864, June 21.—N° 1547.

DENNE, THOMAS JAMES.—" Improvements in the manufacture " of card and millboard boxes." This invention consists in the employment of stamps to cut sheets of board into such shapes and sizes that they will require "simply scoring, uniting, and " covering to form them into boxes." The drawing "represents " in perspective a stamp or cutter for cutting sheets of card or " millboard into the shape required for forming a square box." After the cutting the board is in the form of a square with a small square cut out from each corner, and it is only necessary to score it, "turn up the four sides or flaps, unite their edges, and " cover the board to form a box."

[Printed, 8*d*. Drawing.]

A.D. 1864, June 25.—N° 1600. (* *)

JENKINS, HENRY, JENKINS, JAMES, JENKINS, FREDRICK and JENKINS, SAMUEL.—(*Provisional protection only.*)—" Im- " provements in metallic clips for permanently or temporarily " binding or holding together manuscripts, papers, pamphlets, " or for other like purposes." A piece, somewhat in the form of a T, is cut from flat sheet metal. The shank is divided "verti- "cally through the middle, so that by bending this part at right "angles with the top the clip is fit for use." The shank and the head may be made of two pieces of metal and united in various ways. Again, the metal may be cut into such a shape that the shanks project at right angles; these are afterwards bent to form with the head a T shape.

[Printed, 4*d*. No Drawings.]

A.D. 1864, July 6.—N° 1676. (* *)

GEDGE, William Edward.—(*A communication from Jules Abelous.*)—"An improved album."

"The improved album, the subject of this invention," contains: "In the first place photographic pictures, either inserted in the "usual way of inserting cartes de visite, or permanently photo- "printed on the leaves of the album."

"In the second place the above-mentioned pictures are sur- "rounded with ornamental, printed, engraved or embossed frame- "work, leaving when engraved or embossed blank spaces in the "grouping, in which spaces are printed in typographical cha- "racters, inscriptions of every character, whether analogous with "the object they surround or distinct therefrom, and intended "for other purposes."

"It is to be undertood that one or more photographs may be "placed on each leaf of the album, and that the photographs "themselves may be of any form, square, round, oval, hexagonal, "or triangular at pleasure. The album itself to be of the form "most suitable to the pictures or objects illustrated on or in its "leaves, and its size may be folio, quarto, octavo, or duodecimo, "or any intermediate or other size at will, the thickness depend- "ant partly on the size of the pictures, but not confined to any "proportion, the binding to be varied as taste may direct in "design, material, or colour."

[Printed, 4*d*. No Drawings.]

A.D. 1864, July 12.—N° 1737.

WRAY, George Octavius.—"Improvements in portfolios." They are so constructed that they can be readily used "as a desk "or easel, which may be attached to the top of a vertical object, "such as the back of a chair or a screen, or may be placed on a "*level surface,* such as that of a table." The two covers are connected by a leather hinge, and two rods, parallel to each other and at right angles to the hinge, are secured to the inner surface of one cover by metal sockets in which they can revolve. One end of each rod is bent into a hook, and the other into a foot "which lies in the same plane as the hook." When the portfolio is to be used as a desk or easel, the stems are turned in their sockets until the hooks stand out at right angles to the cover to which they are attached, and the same movement causes the feet to turn up within the hinge "and thus to form with it a projecting ledge." For attachment to a chair back the hooks are adjusted over it; the cover to which they are attached forms the slope, and the lower edge of the other cover, resting against the chair back, "acts as a prop or stay," being retained in a proper position by a band or string which is fastened to it and hooked into a notch in the top of the other cover.

Modifications.—1. The rods may have feet "projecting from "both sides," either formed in one piece with the rods or pin-jointed to them; the parts of the feet on the same side as the hooks are arranged to enter sockets fixed to the other cover, thus replacing the above-mentioned band or string.

2. "A metal limb" may be substituted for the hooks; it is hinged (by preference) to "an intermediate board" which is hinged to one of the covers; the angle at which it can be turned out is limited by a cord, connected to the board at two points and passing through eyes on the outer ends of the arms of the limb. When the portfolio is supported on a chair back, the lower cover is retained at the desired angle by a cord. In this modification the projecting ledge is formed by fixing within the hinge three or more springs which keep it "in a cylindrical shape," or by attaching to one of the covers short arms "made capable of turning "outwards so as to protrude within the flexible hinge." The angle made by the arms of the limb and the board may be regulated by a projection on the part which is hinged to the board. Again, in place of a limb "a stiff board or flap may be hinged to "one of the covers," and the angle that it is allowed to make "may be limited by bands or otherwise."

[Printed, 10*d*. Drawing.]

A.D. 1864, August 2.—N° 1919.

BOSSERT, Friedrich Wilhelm.—"A new combination of "musical box or instrument with albums, ladies' companions or

" work cases, and other similar articles." The musical box when combined with an album is fastened into a chamber (formed at the back of the cover) by "transverse stays," packing, and a partition in front. The upper side of the album cover consists of two portions, one over the chamber and fixed at the sides thereof, the other opening and closing on hinges. The album slides to and fro in V-shaped grooves in the under cover, and an abutment on the partition prevents it from sliding too far back. The musical box is wound up by applying a key to the winding square through a hole in the under side of the chamber. A cord fastened at one end to the moveable portion of the cover passes through an eye into the box; its other end is secured to a stud which slides in a slotted guide bar. A spring carried by the stud works a lever " centred on a bar" and having at one end a stop which takes into an orifice in the face of a wheel keyed on the axis of the barrel. The lever is formed with a spring on one side whose free end "abuts against the comb," and with a tongue or arm on the other which engages with the balance wheel. A pin for shifting the barrel "passes through one side of the chamber."

By throwing back the moveable portion of the cover the box is set going; by closing it, the cord is relaxed, and the stop entering the orifice holds the wheel and barrel stationary.

[Printed, 8*d*. Drawing.]

A.D. 1864, September 16.—Nº 2261.

HUNTER JAMES CHARLES.—(*Provisional protection only.*)—" Improvements in book slides." The sole-plate is grooved at each end; a piece sliding in each groove extends nearly to the middle of the plate, and to each sliding piece is hinged or otherwise connected a flap so that it may be folded over when the book slide is not in use. On the underside of the sliding pieces and "between them and the grooves" is "a travelling " screw working through a stationary nut," the underside of the pieces "being hollowed out so as to permit them to work truly in " the bottom of the grooves." The screw "is continued to the " outside edge of the sliding portion," and is there furnished with an ornamental head, so that it can be turned by the hand and draw out or press back the said sliding portion as required.

[*Printed*, 4*d*. No Drawings.]

A.D. 1864, September 16.—N° 2268.

AUSTIN, William.—(*Provisional protection only.*)—"Improvements in the manufacture or construction of cardboard, scaleboard, and other boxes, cases, and similar articles." "The bottoms and other parts" of these boxes (which parts have hitherto been made in several pieces fitted together) are formed "of paper stuff or pulp, gutta percha, cement, glass, or any other substance, either simple or compound, which can be cast, moulded, pressed, or formed into the required shape and configuration entire."

[Printed, 4*d.* No Drawings.]

A.D. 1864, September 17.—N° 2274.

BROWN, Charles.—"A new and improved mode of and contrivance for ripping or cutting open newspapers, journals, pamphlets, and other paper, folded or otherwise." This invention, which is applicable to "books, share and dividend papers, and cheque books," as well as to the above-named articles, "consists in fixing or attaching to the surface of the paper, or in fixing and imbedding partially or wholly in the body of the paper" thread, twine, tape, or wire, in those places where the paper is subsequently to be cut. The thread, &c. when applied to the surface of the paper is fixed upon it "by means of glue, size, varnish, or any other suitable adhesive matter." But it is preferred to imbed the thread in the paper; "when in course of manufacture the pulp reaches the endless web for draining off the water;" this may be done "by means of a reel of thread conveniently suspended from above, and this thread, previously sized or otherwise, may run therefrom to a small roller attached to the bar which removes the froth from the pulp and be allowed to partake of its lateral vibrating motion." The thread may be, "of silk, cotton, hemp, flax, or any other suitable material;" it may be used "with but little twist," similar to cotton yarn or floss silk, or "with more twist to render it wiry or compact similar to sewing cotton, according to the thickness or quality of the paper."

For cutting paper provided with thread as above described, it is simply necessary to take hold of an end of the thread and to pull it off in the direction in which a paper knife would be used.

[Printed, 4*d.* No Drawings.]

A.D. 1864, October 4.—N° 2434.

SHETHER, CHARLES.—(*Provisional protection only.*)—"Improvements in fastenings for purses, books, and other articles." A metal plate with "an opening similar to a keyhole in it" constitutes one part of this fastening. The other consists of two plates, the upper partially rotating on the lower on an axis or pin which keeps the plates together. The axis "projects through the "lower plate and has a part projecting radially therefrom, which "is free to enter the keyhole," and occupy "the part corresponding with the barrel of the key." The plate to which the axis is fixed "is outermost and may be turned readily with the fingers, "but is furnished with stops to arrest it in suitable positions." To apply this fastening to books the keyhole plate is fixed, by preference, "to the side cover," and a flap is carried over from the other cover round the edge; or "the fastening may be applied "to parts disposed at the edge of the book in the position of an "ordinary book clasp." By preference the two plates are made of an oval form, so that they "cover and coincide with each other "when the fastening is secured;" other forms and arrangements of these plates may be adopted, "and the key or catch piece may "have two parts (radii from the axis) instead of one."

[Printed, 4*d*. No Drawings.]

A.D. 1864, October 10.—N° 2491.

NICOLAS, ERNEST LOUIS.—(*Provisional protection only.*)—"Improvements in apparatus for bookbinding." The apparatus consists "of two triangular rods of hard wood or metal square "edged inside at the back; they are traversed near their extremities by two copper screws corresponding to two sockets tapped "from one end to the other in such a manner as to draw, if "required, the two rods one against the other;" the whole is adjusted so that the edges of the rods exactly correspond. "Any "number of sheets are taken, equalized, and placed in the opening of the rods, and made fast to the back of the binding; "that done, the book is closed, and the two front screws are "turned lightly." The sheets (the number for a volume should not exceed 500) "are bound together, that is to say, united so as "*to form* the back of a book."

[*Printed*, 4*d*. No Drawings.]

A.D. 1864, October 18.—N° 2577.

LUDWIG, John.—(*Provisional protection only.*) — "Improve-" ments in the means of setting or securing stones and other " materials applicable to jewellery and other manufactures." Among the purposes to which this invention may be applied is " the ornamentation of book and album covers." A model of the intended ornament with stones set therein is prepared and placed in the bath of a galvanic battery for the purpose of obtaining a matrix or counterpart. The stones to be set having been inserted in the recesses of the matrix and caused to adhere therein by a suitable solution, matrix and stones are placed in a galvanic bath, "and the metal deposited will surround the stones and " otherwise form so as to produce an exact imitation of the " original model." The cast, when removed from the matrix (the face of which is previously prepared so that the deposited metal will not adhere to it) " will bring out with it the stones" firmly set therein; it is then manufactured into the article required and electro-plated. Instead of metal gutta percha or other material may be used for a matrix. Sometimes a setting is prepared " by " applying wires parallel or otherwise around the mounting and " secured at back, or by passing through holes." The stones are placed between the wires, and grains of silver or other metal are put "around the stones in the interstices between them and " the wires, causing both the stones and the grains of metal to " adhere in position by varnish or suitable adhesive matter;" the whole is then placed in a galvanic bath, and a sufficiency of metal is deposited thereon " to complete the setting and fix the " stones in position." The mounting " is afterwards finished by " a fastening or may be further mounted as desired."

" According to this last method" a metal setting can be stamped which "may occupy the centre of a metal surface." The stones are cemented to the base of the setting, and "the general surface " of the stamped article" is coated with a non-conducting matter; grains of silver are placed as before round the edges of the stones; the whole is put into a galvanic bath, and metal is deposited thereon " which adheres to the base, forms the setting, " and fixes the stones."

[Printed, 4*d*. No Drawings.]

A.D. 1864, October 22.—N° 2620.

BETJEMANN, George, **BETJEMANN**, George William, and **BETJEMANN**, John.—(*Provisional protection only.*)—" Im-" provements in cases or receptacles for matches, stamps, cards, " and other articles." The case is composed of "two cylindrical, " oval, or other conveniently shaped cases, one of which is made " to slide within the other." The outer case is closed at one end, the inner at both ends, and a recess is formed in that end which comes against the closed end of the outer to receive a spiral or other spring. " A portion of the side of the inner case is removed " for the putting in and taking out of cards, &c., and one of the cases carries a pin or stud which slides in a slot in the other. To close the case the inner is pushed into the outer to the further end thereof, where " a spring catch takes into a hole in " the inner " and holds it; to open it pressure on a button releases the catch, when the spring will force out the inner case. The slot does not extend to the end of the case, so that the inner " is prevented coming out altogether."

[Printed, 4*d*. No Drawings.]

A.D. 1864, October 26.—N° 2651.

JENNER, Frederic.—" Improvements in purses, cigar cases, " bags, and other similar receptacles," among which are mentioned card cases and pocket books. This invention refers chiefly to such of the above articles as " are formed of two similar parts or " halves united by a hinge." The edges of the leather or other material of which the body of each half is made are turned over and round a metal rim or open plate. The frame " which " carries the hinge and constitutes the finished edge or frame of " the receptacle " is secured to the turned over portion of the leather and to the metal rim by screws or rivets which are passed through the frame and leather into the rim.

[Printed, 6*d*. Drawing.]

A.D. 1864, December 14.—N° 3094.

HANCOCK, Charles, and **SILVER**, Stephen William.— " A new manufacture of sheets and surfaces for designs and " ornamental purposes." These sheets are obtained from " milk

" of ballata alone or in combination with the milk of caoutchouc" with the admixture, if required, of any pigments, dyes, or coloring matters; they are applicable to book covers, boxes, articles of furniture, &c. The milk is poured into moulds of any suitable material and shape or over plain or figured surfaces, and it is removed when dry and sufficiently set. To manufacture articles of additional strength a piece of muslin or other open fabric or some cotton wadding is laid on a mould and brushed over with the milk with sufficient pressure to force it through the fabric and to fix the fabric to the mould; more milk is added from time to time until a sufficient coating has been supplied. More fabric is added in the same way, if still greater strength is required, and when all is thoroughly set and dry, it is gradually drawn off the mould, and, if needed, backed up or filled in with any suitable material or compound. The surface of wood, metal, &c. is coated " with ballata and caoutchouc milk," and is afterwards embossed or pressed into or upon plain or figured moulds or surfaces. Tapes, cord, or string may be coated therewith and afterwards ornamented.

[Printed 4*d*. No Drawings.]

A.D. 1864, December 15.—N° 3110.

HANCOCK, Charles, and SILVER, Stephen William.— " A new manufacture of certain flexible elastic waterproof sheets, " surfaces, compounds, and substances, and the application thereof " to various purposes." These articles are manufactured by aid of " an admixture of the milk of caoutchouc and the milk of ballata; " these substances are mixed together in equal proportions by " stirring one into the other in suitable vessels, the air being " excluded from the mixture until required for use." Amongst the many applications of this compound is one " to the backs of " books for the purpose of cementing the leaves in place of " stitching," and for this purpose " two-thirds caoutchouc to " one-third ballata " is found " to answer extremely well." " The " back edge of the book is to be first rasped, and the milk " compound is applied with a brush or spread on with a thin " ivory knife or spatula, coat upon coat according to the thickness " required for the size of the book. The cemented back cloth or " leather previously coated with the compound may be veneered " over if required. If heat be applied to the coated cotton cloth

" or leather back of the book, and the two surfaces be brought " together with pressure, they adhere and form a stronger back to " the book."

Another application, which (perhaps) belongs to this series, is to the manufacture of "compound fabrics" by spreading the mixture upon leathers, paper, textile and other fabrics, the number of coats depending on the intended use of the article. Sometimes a fabric is first coated with the mixture, and then sheets of the same are rolled on to it; and sometimes sheets of the compound are applied to a fabric by means of hot plates, or other suitable methods.

[Printed, 4*d*. No Drawings.]

A.D. 1864, December 20.—N° 3158.

LEACH, GEORGE.—"An improved fastening for books, pocket " books, portfolios, satchels, bags, writing cases, and other anal- " ogous articles." The fastening consists of "a series of tubular " pieces which are secured alternately to the sides of the book, " and so arranged that when the book is closed the tubular pieces " are brought into a continuous line and form a tube" down which a pencil case or a pen case may be passed. To prevent the case from being drawn out "a spring catch is adapted thereto," the nib of which projects from a hole in the case and takes into a groove or under a shoulder inside one of the tubes. To withdraw the case the nib is forced back by means of a key or other instrument, which is inserted through an opening in the top of the case and made to bear against the spring catch. Or the catch may be attached to one of the tubes, and its nib may take into a notch or annular groove in the case. The catch is depressed by means of a key which is passed through a suitable aperture in the tube that carries the catch.

[Printed, 10*d*. Drawing.]

1865.

A.D. 1865, February 6.—N° 324.

LATHAM, WILLIAM HENRY, and LATHAM, FREDERIC CARTWRIGHT WARD.—" A new or improved machine for trimming or

" cutting the edges of books, magazines, and such like articles." The principal parts of the machine are, (1), a frame; (2), a circular knife fastened upon a spindle; and (3), a table " at that end of the " spindle to which the knife is attached," and " sliding at right " angles with the axes of the knife." The edges requiring to be cut are placed so that they overhang the table; the knife rotates rapidly, and the table " slides in grooves across the face of the " knife." Motion is given to the spindle from a handle by pulleys and driving belts. At one end of the table is a bracket carrying a weighted lever to which a presser is linked, and at the other end a curved bracket whereon is a spring catch to support the lever and presser when raised up from the table. To move the table to and fro, a latch connected to a spiral spring draws a " strap fork;" this moves a belt from a loose to a fast pulley, thereby driving spur wheels, upon one of which is a sliding block; and a stud carrying the block slides in a slot cut in a vertical lever which is linked to the table. The latch on the return motion of the table presses against an incline upon the strap fork, " which stops the " motion of the table." There is also a " glazier " for sharpening the knife; it is driven by a pulley and belt, and a lever puts it in and out of contact by means of an incline attached to the vertical lever.

[Printed, 10*d*. Drawing.]

A.D. 1865, February 20.—N° 477. (* *)

GEDGE, WILLIAM EDWARD.—(*A communication from François Stoker.*)—" A chemical combustible substance, and apparatus to " which it is applicable," namely, to foot warmers, chafing dishes, stirrups, portable kitchens, smoothing and soldering irons, tea-urns, and coffee pots, " finally, to every apparatus where heat " or fire is required." The substance or fuel is composed " principally of carbon obtained from the distillation of light " woods in a close receptacle, say, two-thirds 'fusain' (the " charcoal used by artists) reduced to powder, and one-third " vinegar charcoal." To this mixture, which serves for basis, various metallic salts are added, " such as nitrates of soda, of " potash, or of baryta, which play the part of combustible and " oxygenating bodies, their proportions varying with the amount " of caloric required from the fuel. Lastly, agglomerating bodies, " such as gum adraganth, fecula, starch or dextrine, are added in " proportions varying from two to five per cent. The whole

" having been well triturated can be pressed and moulded into " very compact cakes." This fuel "may be lit by an ordinary " lucifer match, and give out a heat of from 77 degrees Fahrenheit " (25 degrees Centigrade) up to 848 degrees Fahrenheit (400 " degrees Centigrade), accordingly as its combustion is quickened " or slackened." The box, inside of which it is placed, is of wire gauze or perforated metal, and provided with regulators for increasing or decreasing the draught.

It is mentioned that this fuel may be applied, amongst other objects, to the apparatus used by bookbinders.

[Printed, 8*d*. Drawing.]

A.D. 1865, April 3.—N° 933. (* *)

CORBETT, THOMAS, and HARRINGTON, ROBERT.—(*Provisional protection only.*)—" Improvements in the manufacture of " letter clips, book markers, paper knives, and clips for suspend- " ing stationery, drapery, and pictures, and for other such like " purposes." The first part of the invention regards " the part " of the clip that carries its fulcrum;" the sides of the lower part are turned up, and the opposite ones turned down, so that, when they are placed face to face, there is a hollow space between them. A pin, forming the joint or fulcrum, is then passed through from side to side. The second part consists in the arrangement of the spring which keeps the clip closed. A coil of wire is placed on the fulcrum in the hollow space, the ends projecting and taking effect, "the one on the tail of the lower, and the other on the tail " of the upper part of the clip." There may be one or more coils or " only so much of a coil as will answer the purpose, being " somewhat of a U form." This clip by lengthening one of its parts forms a book marker and paper knife combined; and by turning up one end "it will be applicable to the suspension of " pictures and a variety of objects."

[Printed, 4*d*. No Drawings.]

A.D. 1865, April 21.—N° 1121.

BETJEMANN, GEORGE, BETJEMANN, GEORGE WILLIAM, and BETJEMANN, JOHN.—(*Provisional protection only.*)—" Im- " provements in cases or receptacles for matches, stamps, cards, " and other articles." Provisional protection was granted for this invention on October 22nd, 1864, No. 2620, and it is again described in the same words, with, however, a modification of the following kind:—Where the employment of a spring is objectionable, the inner case is caused to move inwards and outwards "by " means of a rack and a toothed wheel and pinion acted upon by " a button or by a lever trigger with two arms, to one of which " one rack is connected, or one of the racks is connected to the " button. This rack works through and passes below the outer " case and engages in a toothed pinion on the same spindle as a " toothed wheel, and this toothed wheel engages into a rack on " the inner case which passes through or works in a slot in the " outer case. By thrusting down the first-named rack the inner " case is moved in one direction, and by pulling it up it is made " to travel in the contrary direction."

[Printed, 4*d*. No Drawings.]

A.D. 1865, September 22.—N° 2423.

CARTWRIGHT, MATTHEW.—" Improvements in the adaptation " of elastic material to articles requiring a bellows arrangement, " or a partially rigid and partially expandible arrangement." Pocket books and expanding purses are among the articles to which this invention is applicable. Pieces of elastic material are " cut or otherwise formed to the required shape;" at or near the edges are secured pieces of non-elastic material "by pressing the " same into the rubber or elastic material whilst in a soft state, or " by using solution and then pressing the same;" and the non-elastic pieces "are strongly stitched to the edges" of the pocket book or purse, or are otherwise connected thereto.

[Printed, 8*d*. Drawing.]

A.D. 1865, September 26.—N° 2468. (* *)

BOUSFIELD, GEORGE TOMLINSON—(*A communication from Henry Tillinghast Sisson.*)—(*Provisional protection only.*)—" Im-" provements in portfolios and paper files." The file consists of a holder provided with a series of pointed hooks, a spring flap, and a contrivance for holding back the flap while papers are being placed on or taken off the hooks. The holder, by preference of sheet metal, is cylindrical at its extreme ends. The flap is a flat or slightly curved strip of sheet metal or other suitable material; it is made with cylindrical ends which fit into the holder ends so as to turn freely therein; it has notches cut in its lower edge to allow of its turning on its axes without interfering with the hooks, and it has at its extremities coiled springs, one end of each being secured to the flap, the other to the holder, and operating to press the flap in a direction towards the side of the holder on which are the hooks. "A spring latch and catch of well known construction" is used for holding back the flap. The inventor describes a modification of the latch and catch arrangement and two other contrivances for the same purpose.

When the file is required for a portfolio, a suitable cover is provided for it; for news and other papers a handle is attached, "and "in the latter case instead of fastening the hooks to the barrel "case they may be fastened to the folder."

[Printed, 4*d*. No Drawings.]

A.D. 1865, October 2.—N° 2525.

JENNER, Frederic.—"An improvement in clasps or fastenings." This invention is described as applied to a memorandum book. A clasp is hinged to one flap and is provided with a catch "to take behind the catch" on a plate fixed to the opposite flap. A spring is fitted into the hinge by which the clasp is connected to the flap, and its tendency is "to keep the clasps pressed down" so as to engage the one catch in the other until its action "is "overcome by disengaging the free end of the clasp by pressing "up the button" which is thereon. A plate is fixed to the flap "to prevent the clasp being pressed too far down when the book "is open;" or a stop may be employed for the same purpose. The spring is a strip of steel, "one end of which is fixed to one of the "outer gudgeons on the flap," and the other end "to the outer "gudgeon on the clasp;" thus, when the clasp is raised, "the "strip of steel becomes twisted, whereby it has a tendency to "return to its normal position; or it "may be fitted so as to be a "little twisted when the clasp is fastened and to become further "twisted when the clasp is raised." One or both the hinges which connect the flaps to the back "may have a spring fitted "therein, the tendency of which is to force the flaps apart."

[Printed, 6*d*. Drawing.]

A.D. 1865, October 16.—N° 2664.

ORRIN, Joseph, and GEER, Thomas.—An improved fastening "for books, portfolios, despatch boxes, and other similar articles," *designed principally* "as a fastening for prayer books, church

" services, and other books intended to be carried in the pocket." A metallic rim having a pin or knob soldered to it in the middle of its length " is placed round the edges of the front board of the " cover of the book and fixed thereto by simple pressure before " the board is covered." A flap of thin metal, having near one edge a hole " corresponding with the position of the pin," is attached to the front edge of the other board " by pasting on a " piece of linen, canvas, or leather, so as to form a hinge;" or the leather or other substance with which the book is covered may be made to form the hinge. The whole is covered with the binding material, nothing being left visible but the pin and the hole. " The breadth of the flap and the position of the eyelet are so " proportioned to the thickness of the book, that a slight compression of the book is necessary both to fasten and unfasten the " same, and it thus acts as a kind of spring clasp." More than one pin and eyelet may be used. In " circuit binding " three flaps are required to protect the three edges of the leaves, each having an eyelet in it, and the front board being provided with three pins.

[Printed, 8*d*. Drawing.]

A.D. 1865, November 10.—N° 2895.

NEWTON, ALFRED VINCENT.—(*A communication from Henry May and Henry Taylor Blake.*)—" Improvements in the manu" facture of embossed wood." The wood is cut " from the end " of the log or timber," and in many cases so as to have the face upon which the impression is to be made " transverse to the " grain." When the pieces have been thoroughly seasoned or otherwise freed from moisture, they are placed " under, between, " or within dies or moulds of any desirable form in such a manner " that a heavy pressure may be made upon the end of the " grain." When the pressure has been removed, the pieces should be " released from such dies or moulds without unnecessary " delay;" either before or after the application of pressure they may be " saturated or covered with oil, varnish, or any other suit" able waterproof adhesive mixture." The faces of one or both dies are intended to have an ornamental surface, and thus an article is produced applicable to many purposes, namely book covers, boxes, picture frames, &c. &c. " After each impression is " made, the faces of the dies should be brushed so as to remove " any adhesive particles of wood."

[Printed, 4*d*. No Drawings.]

A.D. 1865, November 13.—N° 2918. (* *)

STEPHENS, John.—" Improvements in portfolios, writing " desks, writing cases, and other similar apparatus." In constructing these articles a writing surface of leather, parchment, or other suitable substance, is fastened at one edge to the back of a portfolio, or to the front edge of a writing desk or case; at the sides (creased or folded to allow of contraction or expansion) to the sides of the case; and at the other edge to a bar and to a piece of vulcanized india-rubber which is fixed to a bar hinged to the case. This hinged bar is provided with a tang of leather, by pulling which the bar is raised, and the surface is caused " to " assume an inclined position." The bar is supported in its elevation by hinged props retained by notches. The bar may be raised and supported by screws, " the heads of which are formed " to receive a key."

[Printed, 8*d.* Drawing.]

A.D. 1865, November 15.—N° 2939.

CHAMBERS, George, and GREGORY, George.—" Improve" ments in locks or catches for portmonnaies, portfolios, or other " articles." The object of this invention is to make a catch or clasp, such that the parts when fastened " may be allowed to " expand without such expansion being apparent." The construction is as follows:—A plate of any shape and metal is formed with a bed sunk in its middle (on the under side), and nearly as long as the plate itself, and a groove is cut on each side of the bed. A loose helical spring is placed in the bed and guarded " by a thin slotted plate in which it works," and a box plate is put over the guard plate " and bedded in the grooves." This part of the clasp is placed on the outside of the flap; pins pass through the upper plate and through the leather or other material, and are riveted to an under plate. On the body of the article is fixed " a plate, having a flat spring fastened to it, the end or " tongue of which passes into a projecting lug or loop." The parts are fastened by pressing the upper on to the lower, and can be expanded when required to the full length of the helix " without " the appearance of the fastening being altered."

[Printed, 6*d.* Drawing.]

1866.

A.D 1866, January 12.—N° 104. (* *)

HART, ALFRED HENRY.—" Improvements in the manufacture " of fasteners for binding papers and for other like purposes, and " in machinery to be used in the said manufacture." The fasteners are strips of metal bent into the shape of a **T**. Two methods of preparing the blanks are described; in the first, cylindrical wire is passed between a pair of rollers, thus flattening the wire and leaving the edges rounded; in the second, thin strips are cut from sheet metal by means of circular cutters. The blanks made by either process are cut and pointed at their ends by machinery of the following construction:—On the bed of a stamping press is fixed a die, in the middle of which is an opening with cutting edges " of a **V** shape, the pointed ends being " presented to each other." At the back of the die is a **V**-shaped stop fastened to a bar; by means of holes in the bar and a screw pin the distance between the stop and the cutting edge of the die can be regulated. On the die is a guide against which a side of the strip bears on being fed to the die. A punch having a corresponding figure is fixed to the bolt of the press in the ordinary way.

[Printed, 8*d*. Drawing.]

A.D. 1866, January 13.—N° 123.

GOTTHEIMER, HENRY. — " Improvements in protectors for " watches, portemonnaies, and pocket-books." A short length of india-rubber, either solid or tubular, is secured at each end to a socket, and to each socket is secured a cap carrying a ring. To one ring is attached a hook " having a short point " and a double turn at the curve of the shank to act as a stop; or the wire of which the hook is made " may be twisted to form a screw, or a " small disc may be soldered to it." The hook is intended " to " be passed through the bottom of the pocket;" the point of the screw " is to be stuck through the lining on the inside of the " pocket," and a button is to be screwed on to the point on the outside of the pocket. To the other ring is attached a swivel which is to be connected to " the usual india-rubber braid or " elastic band " encircling the pocket-book.

The watch protector requires the addition of other rings, which the patentee describes.

If the india-rubber is tubular, there may be inside it a helical spring fixed to the sockets; and instead of a single tube "an "india-rubber ring, either solid, tubular, or tubular with a spring "inside," may be employed.

[Printed, 8*d*. Drawing.]

A.D. 1866, January 18.—N° 170. (* *)

WILLIAMS, James.—(*Provisional protection only.*)—"Im-"proved sheets, plates, or apparatus to facilitate improvement in "handwriting." This invention "consists of a number of head "lines with perforated spaces between them at regular intervals, "through which the lines in a copy-book or on a slate or other "article which are to be written upon are exposed. The "material of which they are constructed may be either cardboard, "millboard, or other stiff material." "For copy-books and thin "leaves a double sheet may be used." The writing to be copied may be printed on the perforated sheets or on paper, and affixed to them by some adhesive matter. "To keep the writing straight "and uniform" lines are dotted down the page, which serve to separate the words, "and short guide lines opposite the spaces "are arranged opposite the lines on to which the writing is to be "copied."

[Printed, 4*d*. No Drawings.]

A.D. 1866, March 10.—N° 740.

ASHBERRY, Philip Henry.—"Improvements in machinery "for the manufacture of articles usually made in Britannia metal, "pewter, German, or nickel silver, and silver, and improvements "in the manufacture and ornamentation of such articles, parts of "which last-named improvements are also applicable to other "purposes." The first part of this invention relates to the construction and arrangement of a force pump, press, and moulds, by means of which a "harder alloy of metal may be used than is "capable of being used by the present system of manufacturing." The alloy, which it is proposed to call "Ashberrium," is composed by preference of 80 parts of tin, 14 of antimony, 2 of copper, 2 of nickel, 1 of aluminium, and 1 of zinc, melted together; and *for common* articles lead is added "in proportion to the quality

" of the article desired to be manufactured." The molten alloy is forced into the mould by means of the pump or "by the force " of its own gravity." A minute description is given of the several parts, of the introduction of gas for the purpose of keeping the moulds warm, and of another arrangement in which "the " press part is placed at an angle of about 45 degrees."

The second part relates to the ornamentation of various articles (amongst which covers of books are mentioned) made of the above alloy. "Ornamental crevices, made in the article itself or " a separate piece soldered or fastened to it," are filled with a colored composition "to imitate enamelling and inlaid work." The composition consists of the desired colour (in fine powder) mixed with copal varnish into a stiff paste; the crevices are filled with this; the article is dried in a stove; and the surface is rubbed smooth with Trent sand and sweet oil, and afterwards polished with rotten stone and oil. In some cases the composition is made by mixing the powdered colour with superfine plaster of Paris in water; the article when dried is varnished "with a mix- " ture composed by melting two parts resin in one part boiled " linseed oil," and is then polished as before.

[Printed, 1*s.* 4*d.* Drawings.]

A.D. 1866, March 15.—N° 779.

GHISLIN, THOMAS GOULSTON.—"Improvements in the pre- " paration of peat for the purpose of rendering it applicable to " the manufacture of articles which are capable of being produced " by stamping, moulding, embossing, or rolling." Amongst the articles mention is made of book covers. Any of the common kinds of peat are employed; and when "such of the watery " particles as can readily be removed" are expelled by pressure, heat, or otherwise, the peat is brought "into the condition of a " smooth paste," or is ground "into a moderately dry powder." Then according to the nature of the articles required, any or all of the following ingredients are mixed with the prepared peat; ground seaweed, india-rubber, gutta percha, or other substances of that class, " or in place thereof, or in addition thereto," resins, natural or artificial, bituminous or albuminous substances and products of the same, chalk, talc, sulphur, siliceous and other earthy matters, waste fibrous and woody substances, " and, if the " surface is intended to be painted, metallic oxides, such as white

" zinc, oxide of iron, or ochre, alum, and other analogous ingredients." The proportions "must depend mainly upon the " character of the peat and the purpose to which the mass of prepared peat is to be applied;" the following is for the formation of "a plastic mass:"—60 parts of prepared peat, about 15 of india-rubber or gutta percha, about 20 of stearine, pitch, resinous and any bituminous substances, and about 5 of oily or fatty matters. To give tenacity and consistency "any required quantity " of fibrous material, metallic oxides, or earthy matters may be " added," and "to vary the density" a portion of seaweed (as prepared under Mr. G.'s former patents) may be employed "in " lieu of an equal proportion of peat or other substance." The whole is thoroughly incorporated in a masticator provided with mixing rollers or other mixing apparatus, and is afterwards passed between rolling cylinders, when it may be embossed, painted, or otherwise treated. To form "a rigid body," the peat treated as before mentioned is mixed with about from 15 to 20 parts "of " any of the aforesaid bituminous, resinous, and gummy substances," and is afterwards moulded or compressed into any desired form.

[Printed, 4*d*. No Drawings.]

A.D. 1866, March 24.—N° 875. (* *)

BOUSFIELD, GEORGE TOMLINSON.—(*A communication from Henry Tillinghast Sisson.*) — "Improvements in portfolios and " paper files." This invention affords "a convenient means for " readily filing letters or papers in book form," and with a slight modification it can be used as a file for newspapers. The holder or case (by preference of sheet metal) "is semicylindrical in form " with the exception of a small portion at the extreme ends, " which is cylindrical for the accommodation of the springs, " which actuate the folding flap;" and to it "are attached a " series of hooks pointed at their ends and curved to correspond " with the arc which the edge of the folder flap will describe." This flap is a flat or slightly curved strip of sheet metal or other material, in length a little less than the opening of the holder and a "little more than one-half its width;" it is made "with cylindrical ends which are fitted into the tubular ends of the holder " case so as to turn freely therein; and, as the edge of the flap " will overlap the edge of the case, it is necessary to cut notches " or openings in the same corresponding to the number of hooks."

It is provided at its ends with coiled springs, "having each one "end attached to the folder, and the other to the cylindrical end "of the holder, and operating to press the flap in a direction "toward the side of the holder upon which the hooks are "attached." A spring latch and catch, "which may be arranged "in various ways familiar to all mechanics," holds the flap back when required, and on the flap is a stop which will engage with the latch. The spring of the latch is furnished with a button "which protrudes through the shell of the holder, and which upon "the application of pressure will liberate the folder." The cylindrical ends may be dispensed with, and there may be "a plain shaft "extending through the axis of the case, and upon this shaft at "one end, and next to the end of the case, is wound a spiral spring, "which will give to the shaft and flap a tendency to make an endwise movement, but which will be restrained by the head of the "case at the other end until the flap is laid completely back, when "it will spring into a notch cut in the edge of such circular head, "and hold the same until pressure is applied to the end of the "shaft, which projects through the head and has a thumbpiece "upon it." In a modification, "so far as relates to the means for "holding back and operating the flap," there are not any coiled springs or spring latch; "the axis of the folder flap" is formed near its ends "into the shape of a crank," or eccentrics are placed "at the same positions;" underneath them are flat springs, "against which the cranks or the faces of the eccentrics will bear, "and as the flap is turned back will depress the springs." The apparatus is intended to be provided with a cover when it is to be used as a portfolio; and "by attaching a handle to the holder, "and dispensing with the covers, the same can be conveniently "used as a file for newspapers and other papers, and in the latter "case instead of fastening the hooks to the barrel case, they may "be fastened to the holder itself."

[Printed, 1s. Drawings.]

A.D. 1866, March 31.—N° 925.

JOHNSON, JOHN HENRY.—(*A communication from Justin Henry David.*)—(*Provisional protection only.*)—"Improvements in "bleaching books, engravings, paper, cotton, and other similar "articles and substances." This invention applies to "books, "engravings, prints, or documents which have become discolored." The books are placed "in their entire state and without the neces-

" sity even for opening the leaves," in a closed chamber (by preference of glass), into which chlorine gas is introduced, and are left to the action of this gas for about eight hours. They are then removed and are put into a similar chamber, " where they " are left for about 24 hours under the action of ozone."

A good result may be obtained " by the use after the bath of " chlorine gas of a bath of sulphuretted hydrogen, and finally " of a bath of ozone." If a very white colour is not required, " the direct application of ozone alone in a closed chamber " will be sufficient.

Two methods of obtaining ozone are given. 1. In a leaden dish is placed " a small quantity of water, in which pieces of " phosphorus (previously treated by immersing them in boiling " water for 12 hours) are introduced," and a current of air " at " a temperature of about 59° Fahrenheit " is caused to pass over the water.

2. " A current of carbonic acid " is passed through " a solution " of 2 parts by weight of peroxide of manganese, 2 parts by " weight of chlorate of potash, 4 parts by weight of water," until " the liquid crystallizes and assumes a deep red tint." The crystals are brought into contact " with six parts by weight " of sulphuric acid," whereupon they disengage ozone in large quantities.

[Printed, 4*d*. No Drawings.]

A.D. 1866, April 6.—Nº 988.

FRASER, James.—(*Provisional protection only.*)—" An improved " system for consecutively numbering checks, and making up " or binding check books when so numbered." It is proposed to number the counterfoil and seller's check piece on the front, and the customer's bill on the back of each leaf. To effect this object a roller is required, having raised figures engraved or embossed on the periphery, and working " on an axle having its " bearings between the forked jaws of a short shank or handle." The following are the directions given :—Print the bill heading on sheets of paper having two rows of perforations ; " fan them " out on a flat surface, so that they overlap one another, so " as to expose a portion of the top or bottom of each sheet, the " printed surface being laid downwards ;" ink the surface of the figures, lay the roller " so that figure one comes in contact with " the first sheet," press it forward until it has numbered " the

" whole of the portion of the sheets forming the seller's check " piece," then move it " a little to one side " and repeat the operation on the portion " which forms the counterfoil," and then remove it again and run it over the portion " which will form the " customer's bill." The ordinary method of making out bills and counterfoils is employed. If a greater number of consecutive figures than can be engraved on one roller is required, two or more rollers can be used. " As the checks are fanned " out they are simply gathered up or knocked together, and are " in consecutive order, which greatly facilitates the work of the " binder."

[Printed, 4*d*. No Drawings.]

A.D. 1866, April 9.—N° 1013.

RAWLINGS, William, and REST, Wilhelmus.—(*Provisional protection only.*)—" Improvements in fastenings for purses, " pocket books, bags, cigar cases, boxes, and similar receptacles." The locking part of this fastening consists of a sliding plate, carrying a bolt which protrudes through a slot in a second plate, " such " plate with a third or back plate being secured by rivets or " otherwise to the lid or flap of the receptacle to which it is to be " attached." A small aperture is made in the back plate to admit a staple, which is secured to the body of the receptacle. The staple is caught by the end of the bolt, and " a helical spring is " introduced and caused to press against the bolt, thereby tend- " ing to keep the fastening always locked, except when the sliding " plate with its bolt is pushed back."

[Printed 4*d*. No Drawings.]

A.D. 1866, April 16.—N° 1074.

JOHNSON, John Henry.—(*A communication from François Auguste Lamontagne.*)—" Improvements in card cases." The body of the case (which may be of any material and suitable form) is provided with a hinged lid, whose under side " may be chamfered " off from the centre each way to the sides." On the top of the lid is a metal plate slotted for the reception of a slide, which is held in place by projecting lips, and which carries on its under side two or more pins; and in the lid is a slot for the admission of a helical spring, which is secured to the lid at one end, and acted on by the slide at the other. A metal plate or false bottom is fitted into the body; it is provided with two lugs working freely in grooves in the sides of the body, with clasps or bands, and with two flat blade or other springs, which tend to raise it upwards; it is slotted longitudinally so that the pins may pass into or through the slot when the case is empty. A spring and pin "at the discharging end of the case," and a slot for the passage of a single card complete the improvements. The cards are placed on the plate under the clasps; when it is desired to extract one, the slide is pressed down and pushed forwards, when its pins come into contact with the uppermost card, and carry it over the spring pin and partly through the slot in the end of the case. The helical spring sends the slide back again, and the spring pin keeps the remaining cards back. Instead of pins an india-rubber cushion may be attached to the under side of the slide.

[Printed, 8*d*. Drawing.]

A.D. 1866, April 21.—Nº 1128.

MACINTOSH, John, and BOGGETT, William.—"Improve-" ments in guards for pocket-books, watches, and watch keys." The patentees make their protectors for pocket-books and watches of elastic cord, by preference "of silk covered with india-rubber;" this is fastened at one end to a piece of metal of any convenient shape, "which has a sharp-pointed spiral wire, like a corkscrew, " projecting from its lower end." The wire is to be screwed into the pocket, and the other end of the cord is to be secured to the pocket-book. "Other means of screwing the elastic cord may be " used either for watches or pocket-books."

The rest of the specification describes the part of the watch to which the end of the cord is to be attached, and an invention " for excluding dirt from watch keys."

[Printed, 6*d*. Drawing.]

A.D. 1866, May 26.—Nº 1473.

McFARLAND, Corey.—(*A communication from John Spooner.*) —"An improved album for exhibiting photographs and other " pictures." This invention is more especially designed "for " exhibiting those photographic pictures taken on porcelain or " other transparent material which requires light at the back." The album is in the shape of "a flat case or box;" one portion " holds the pictures concealed from view," the other is provided " with apertures covered with glass or other transparent material."

The case is constructed to support the pictures in such manner that each can be moved into either portion independently of the others; grooves are formed in the top and bottom, and slides, having lugs "to clip the edges of the pictures," and projections which extend through the grooves at the bottom, support the lower edges of the pictures. One end of the case opens upon a hinge or pivot; this allows the slides "to be drawn partly out," when required, for filling or changing. The case can be made single, or double with a hinge, or of sufficient length to hold a set of pictures at each end, the glass covered openings being placed in the middle; it may be of any material, bound in any description of book cover, and mounted on a stand.

[Printed, 8*d*. Drawing.]

A.D. 1866, May 31.—Nº 1523.

LINNETT, John.—(*Provisional protection only.*)—"Improvements in the manufacture of paper and cardboard boxes, and the lids of the said boxes." This invention relates to such boxes and lids as are rectangular and made "by folding and pasting blanks scored or pierced at the parts where the folding is to be effected." The blanks are cut of a rectangular figure, and scorings are made along their longer sides "at a distance from the edges equal to the depth which it is intended the sides of the box or lid shall have." Cross scorings at right angles to the former are made "at a distance from the ends of the blanks equal to double the depth it is intended the ends of the box or lid shall have." The portions of the blanks forming the sides are detached from the parts forming the ends, by incisions from the ends of the blank to the cross piercings or scorings," and the intermediate portions of double the depth of the ends of the box or lid have cross scorings or piercings across their middle." The blanks are then folded in the following manner:—"The longer sides are raised at right angles to the other parts, the detached ends are turned inwards, the ends are raised flat against the turned-in ends, and the upper half of each end is turned over and folded down against the turned-in ends." The pasting of the parts at the ends secures them and completes the box or lid, which may be covered if required with ornamental paper. The cutting out and scoring "are effected by machinery or apparatus of the kinds employed for like purposes."

[Printed, 4*d*. No Drawings.]

A.D. 1866, June 7.—N° 1572.

FRIEDMANN, Joseph Julius.—(*A communication from Maximilian Friedmann.*)—"An improved preparation of materials applicable for the manufacture of hats, caps, bonnets, coats, cloaks, "gaiters, and other articles of clothing, pouches, portfolios, and "other articles of capacity for enclosing various useful articles." Very thin sheets of cork are bespread with "a thin film of gutta "percha, india-rubber, or other gum dissolved in any suitable "solvent, or an elastic preparation or compound which has "sufficient elasticity and is capable of being softened by the "application of heat." When the film is laid quite smooth on the sheet, a piece of textile or woven material is placed upon it; heat is applied to the surface of the material to soften the gummy matter, and the whole may if desired be submitted to the pressure of a screw or hydraulic press, "the bed of which should be made "hollow and be heated by steam." This pressure will cause the two substances to adhere firmly together "and produce the "compound fabric required."

[Printed, 4*d*. No Drawings.]

A.D. 1866, June 8.—N° 1582. (* *)

GRISWOLD, Henry Josiah.—"Improvements in the manufacture of cards, tablets, and other articles from which marks "made with ink or lead pencil may be repeatedly erased by "moisture without injury to the surface." This invention is especially applicable to cards, price lists, skeleton maps, and other sheets upon which it is desired that part of the writing or printing should be permanent, and the remainder easily erased. The card or sheet, after the permanent writing or printing has been produced on its surface, is covered with a transparent waterproof composition; when this is dry, a finish may be imparted by passing the card or sheet between calender rollers. The patentee employs a composition made by preference of the following ingredients and in the following manner:—He dissolves 3 lbs. of shellac in 1 gallon of drysalter's "finish," and he combines therewith 1½ lbs. of powdered soap-stone; any other "very "fine grit" may be used instead of the soap-stone. The mixture should be ground as fine as possible and applied in a liquid state.

[*Printed, 4d.* No Drawings.]

A.D. 1866, August 28.—N° 2211.

DELAGARDE, Léopold.—" Improvements in binding books," whereby single leaves, double sheets, quires, cards, engravings, newspapers, and other like papers may be bound without sewing, folding, or pasting " in such a manner as to permit of their being " classified, and of one or several parts being added to or taken " from the rest rapidly without displacing all the sheets or quires " which form the book." To effect this object there are required, 1, a cover and stiff back; 2, a flexible back; 3, hooks of strong wire " having the form of a U with long branches;" 4, long helical springs (or pieces of india-rubber) connected to one branch of the lower hooks; 5, sheaths for the reception of one set of the branches; 6, narrow bands " united by a hinge and of the same " length as the leaves," and 7, clasps to fix the leaves. " All the " parts above described may be made of tissue, metal, or any " other convenient material." The process of binding is as follows:—The cover is opened flat; a set of hooks (with one branch inserted into the sheaths) is placed at the bottom of the flexible back and another at the top; the sheets, &c. " are adjusted " to the back," placed between the bands, and fixed with the clasps and hooks. A stay inside each sheath limits the action of the spring, and a nut at the entrance prevents the branch and spring " from coming out entirely." Several branches may be in one sheath " and have a common spring." For copy-books, " which have a back formed by the fold of the leaves," blades and clasps are not required.

[Printed, 8*d*. Drawing.]

A.D. 1866, September 15.—N° 2373.

NEWEY, Thomas.—" Improvements in clips or fastenings for " the bands of purses and pocket books, and for other bands, and " for other like purposes." This clip is made from two strips or blanks of thin metal rectangular in figure and similar in shape; one of the longer sides of each is cut so as to leave on it a broad projection, the other two narrow ones, the broad one occupying as much space as there is between the narrow ones, and all are converted into eyes or knuckles for hinges. Two or more serrated tongues are cut or pierced out of one blank " and raised from the " plane " thereof. The two blanks are hinged on one side (the knuckles being inverted) by a pin passed through and riveted.

The ends of the band to be secured are placed upon the tongues, the other side of the clip is brought over so that its broad knuckle coincides with the narrow ones, and a bolt or headed pin is passed through them.

[Printed, 6*d*. Drawing.]

A.D. 1866, September 20.—N° 2410.

ASHWORTH, GEORGE, and **ASHWORTH**, ELIJA.—"Im-" provements in 'portfolios' or 'cases' for holding musical pub-" lications, periodicals, manuscripts, and the like matter, and in " binders to be used therewith." Metallic holders are fixed to the inner edges of the sides of the portfolio or case, and strips of leather, caoutchouc, or other suitable material, are secured "by " being drawn through slits or loops" in the holders, "the slits " being smaller than the section of bands" or strips. Binders, T-shaped but with the head forming a loop, are "thrust through " the fold of the sheets from the outside to the inside;" the points of each binder are flattened down; and "the ends of the " bands, being detached at one side from the portfolio and passed " through the loop in the binders, on being reattached retain the " sheets or periodicals in position in the portfolio." Similar holders and bands may be applied "to the outside edges" of the portfolios or cases "in lieu of ribbons or strings."

[Printed, 10*d*. Drawing.]

A.D. 1866, September 27.—N° 2504.

DROMTRA, FRIEDRICH WILHELM CONSTANTIN.—(*A communication from Theodore Neuscheller.*)—" Improvements in the " means of securing pocket books and other portable articles on " the person." The invention is described as applied to a pocket book. A metal plate is riveted under the outside leather; a rod works in staples fixed to the plate; it is capable of turning in either direction, when moved by one of its ends, which projects beyond the edge of the book, and carries a thumbpiece at its outer extremity. Secured to or formed on the rod is a hook pointed at its free end; and in the plate is a slot for the reception of the back of the hook when not in use. A knob is fixed at one end to the rod; it works at its outer end against the free end of a spring, " which is slightly rounded or convex for the purpose, though " *the rest of the* spring is flat;" the plate is slotted for the knob to work through, and the lateral edges of the slot are bent up to form stops. On the outside of the pocket book is a raised or convex plate pierced with a slot and a round orifice, and the material between the plates is cut with suitable openings.

To fasten the book to the pocket of a garment, turn the rod so as to raise the hook and move it through the slot in the convex plate, thereby causing it "to penetrate the lining of the pocket;" continue to turn the rod, which "passes the pointed end of the " hook again through the lining of the pocket, and out of such " lining into the orifice," where it is held by aid of the spring.

The patentee does not restrict himself " to the exact mechanical " details."

[Printed, 8*d*. Drawing.]

A.D. 1866, October 6.—N° 2579.

CLARK, WILLIAM.—(*A communication from Joseph Schoenfeld.*) —" Improvements in fastenings for purses, cigar cases, travelling " bags, and other similar articles," among which are mentioned portfolios. The fastening is described as attached to a purse or bag made with a hinged metal frame; the locking part consists of a piece of thin sheet iron cut with two projections, one of which is notched or recessed, whereas the other is pressed on by a spring. One end of the spring is riveted to the frame, and a fixed stop limits the action of the spring. A button or stud passing through the frame is riveted to the locking part "whereby the latter may " be rotated." On the portion of the frame opposite to the notch is a catch having an inclined surface; this slips into the notch and holds the portions of the frame together; and to open them " it is simply necessary to turn the stud." There may be modified arrangements of the stud and spring. Instead of a simple stud, a solid or hollow head may be connected to the locking part by means of a pin which passes through the frame; the head " extends over both parts of the frame, and so may be readily acted " on by the fingers." Or a jointed knob may be used, the shank " being of a square form in section in order to turn the bolt." The spring may be "bent at a right angle at its extremity," in which case the stop would be dispensed with; or it may be arranged to bear on the notched end of the locking part " and " underneath it."

[Printed, 1*s*. Drawings.]

A.D. 1866, October 8.—N° 2592. (* *)

BETJEMANN, GEORGE, BETJEMANN, GEORGE WILLIAM, and BETJEMANN, JOHN.—(*Provisional protection not allowed.*)—"Improvements in the manufacture of articles commonly called " 'writing' or 'library sets,' and other similar articles." The patentees propose to apply "slabs of polished stone or marble " mounted with mediæval or other ornamental mounts" to the covers and other parts of sets, desks, caskets, albums, dressing cases, and like articles. The slabs are to be fixed "to a suitable " foundation, forming the body of the article by cement, marine " glue, pins, ornamental nails, or screws and nuts." Similar mounts may be applied "when the body of such articles consists " entirely of stone or marble." If cement or glue is to be employed, "the parts coming in contact with each other" are to be roughened; if pins, nails, or screws, "they are attached to the " back of the mètal mounts, and passed through the slab of stone " into and through the material forming the foundation for the " stone or marble, and are then secured by rivetting or by nuts." Or "the mounts may be formed with nuts at the back thereof" for the reception of screws.

[Printed, 4*d*. No Drawings.]

A.D. 1866, November 13.—N° 2972.

CLARK, WILLIAM—(*A communication from Rufina Nöggerath-Temmerman.*)—"Improvements in the preparation or treatment " of fabrics or materials for the manufacture of various useful " articles," such as "baskets, boxes, trays, vases, hand screens, " portfolios, toilet and other such like articles." The materials are "open-knitted lace or net fabrics" or "open or close fabrics " made from horse or other hair, esparto, and generally of all " animal or vegetable textile matters." The material is, 1, "submitted to a preliminary preparation" to render it "suitable for " being metallized or simply hardened and colored;" 2, "hardened " by drying and moulded" (the mould should be previously coated with a fatty or soapy matter); 3, the article is painted o immersed in a dye bath; 4, coated with "a neutral varnish" or with gumlac; 5, "galvanized or metallized by any known chemical or electrical means;" 6, cleaned and submitted to heat " in order to destroy the textile material forming the foundation " and extract all moisture;" and 7, " dipped in a finishing bath " for gilding, silvering, or bronzing." The preliminary preparation consists in steeping the materials in a solution of silicate of potash or in immersing them "in a solution of size, resin, pyro-" ligneous acid, pyrolignite of iron, gum, creosote, salt of benzoin, " or other products serving to envelope" them and give the necessary degree of hardness. As a hardening agent there may be employed "chloride of lead, a solution of galipot in spirits of " wine, caseine, or the following:—1st, one part of quicklime and " five parts of water;" 2ndly, five parts in weight of albumen " in a decomposed state" mixed with one part of milk of lime; or a cheap varnish may serve as a primary coating. The method employed by preference for metallizing the materials is described. Imitations of gold and silver are produced "by diluting gold " silver, bronze, and other powders in white varnish, or by " sprinkling the powders in a dry state with a sable brush on the " materials coated with the first layer of varnish before it is dry." Powdered white or black glass, woollen flock, sand, rice, and various ornamental matters, may be applied in a similar manner. " These imitations may serve in certain cases as a substitute for " the metallizing or galvanizing processes." Sometimes a coat of varnish of a slightly yellow tint is applied on the silvered or imitation silvered product for the purpose of giving it "a golden " lustre."

[Printed, 4*d*. No Drawings.]

A.D. 1866, December 29.—N° 3429.

HASELTINE, George.—(*A communication from John Frederic Dubber and Carlos Bardwell.*)—" Improvements in fastenings for " pocket books, diaries, memorandum books, and other similar " articles." The inventors describe the arrangement of a pocket book; it is provided with a series of pockets, a folding pouch for the reception of bills, and a covering flap. In the flap are secured one or more strips of spring steel or other suitable elastic material, " one continuous strip being used by preference, which is im-" bedded in the edge of the closing flap" and is fastened thereto " by rivets or other means. By the action of this spring the flap " will keep the pocket book closed without the aid of strings, " clasps, or other fastenings." The spring is so adjusted that when the bill pouch is unfolded, the pockets are still "kept closed " by the action of the closing flap."

[Printed, 6*d*. Drawing.]

APPENDIX.

A.D. 1850, November 17.—N° 13,315. (* *)

BLACK, JAMES.—(*Partly a communication.*)—"A machine for "folding." "This invention has reference to the folding by ma-"chinery of paper, cloth, and other like fabrics." The sheet of paper to be folded is properly placed as to registering on a box or table, having a long slot in its upper surface; the sides of the slot are continued downwards in the box, thereby forming a narrow chamber. The folding blade, jointed at one end, and having a serrated edge in preference, is then caused to descend on the paper, and enter the narrow chamber, through the slot, carrying down with it the paper, which it thus folds. The blade then recedes, by means of a spring or counter weight, leaving the folded paper in the narrow chamber. A second folding blade is then caused to strike the paper cross ways and carry it through another slot into another narrow chamber situated in the side of the first chamber, to leave it there, and recede, thereby folding the paper a second time. This mode of folding may be repeated several times. The throw of the last folder used brings the folded paper within the action of a pair of rollers, which catch it between them and deliver it forward between a second pair of rollers, where a considerable degree of pressure may be given by means of regulating screws.

[Printed, 10*d*. Drawing. See Mechanics' Magazine, vol. 54, p. 396; and vol. 55, p. 101.]

A.D. 1851, January 16.—N° 13,453. (* *)

BUCHHOLZ, GUSTAV ADOLPH.—"Improvements in printing, "and in the manufacture of printing apparatus, and also in "folding and cutting apparatus." These improvements consist, first, in making printing rollers of gutta percha.

Second, of a printing apparatus, whereby both sides of two or more sheets of paper may be printed as they pass through the machine.

Third, of a "folding apparatus." The table on which the paper *is to be folded* may be suitably moved up and down to accommodate its surface to the height of the folded paper. At each end of the table is placed a valve on curved slides, which presses on the table by means of springs. The end of the paper being placed under one of these valves and held there, a plate supported on the end of two levers, one on each side of the table, and properly actuated, carries the sheet over to the other end of the table, and pushes the fold under the opposite valve, where it is held; another plate, also supported by two levers, then carries the sheet back, and pushes the fold under the first valve, and so on till the sheet is entirely folded. These pairs of levers are actuated and preserved in their relative positions by their ends working in the forks of an oscillating lever or pendulum placed above. By this means may be folded "a continuous or length of paper or other pliable mate-"rial, whether printed or unprinted, into folds or shorter lengths, "and so that when desired it may with greater facility be cut up "into sheets or pieces."

[Printed, 6*s*. 6*d*. Drawings. See Mechanics' Magazine, vol. 55, p. 77; Patent Journal, vol. 11, p. 263.]

A.D. 1860, May 29.—N° 1322. (* *)

JONES, Wright.—"Improvements in machinery or apparatus "for doubling or cutting woven fabrics, paper, or other materials."

"The fabric or material is passed over one or more adjustable "guide rods, and under a card or pin roller to a dividing, doub-"ling, creasing, or rigging pulley or disc, either plain or fur-"nished at the rim with wire card or pins, and from thence "between a pair of inclined rods or rollers to be lapped on boards "or wound on pegs or rollers in a vertical position. Or the "fabric or material is passed from the pulley between guide "rollers to a spiral plate or board for guiding the fabric or ma-"terial from a vertical to a horizontal position, it being pulled "forwards by a card roller or a pair of drawing rollers, and after-"wards plaited down or lapped on boards or wound on rollers "as may be desired." Or instead of the pulley "a slotted frame "in connection with a taper guide" may be employed.

[Printed, 10*d*. Drawing.]

A.D. 1861, March 2.—N° 542. (* *)

NEWTON, William Edward.—(*A communication from Daniel Francis Buckley and Bradbury Poor Cilley.*)—"Improved ma-

" chinery for folding paper." The invention is intended to dispense with the use of tapes in machines working with straight edges and rollers, and also to adapt the folder directly to the printing press. The paper is placed on a table with its central line directly over the line of contact of two rollers, between which it is passed by a knife edge. Beneath the table and placed at an an angle of 45° to its surface is a second table with a second pair of rolls at right angles to the first pair. A second knife edge passes the paper between these and it is thus folded again. A guide plate below the rolls delivers the paper into a gauge trough, where a knife strikes it and delivers it between a third pair of rolls, so that a third fold, parallel to the second, is made. Next it is guided down a bar to a fourth pair of rolls, from which it receives its fourth and final fold.

[Printed, 1*s*. Drawings.]

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10. A description and draught of a new-invented Machine for carrying vessels or ships out of or into any harbour, port, or river against wind and tide, or in a calm, &c. By Jonathan Hulls. (*Letters Patent, No.* 556, *dated* 21*st December* 1736.) Price 8*d*.; by post, 9*d*.
11. An historical account of a new method for extracting the foul air out of ships, &c., with the description and draught of the machines by which it is performed, &c. By Samuel Sutton, the Inventor. To which are annexed two relations given thereof to the Royal Society by Dr. Mead and Mr. Watson. (*Letters Patent, No.* 602, *dated* 16*th March* 1744.) Price 1*s*.; by post, 1*s*. 1*d*.

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